



## EFFECT OF THE USE OF VIDEO COMPACT DISC INSTRUCTIONAL PACKAGE (VCDIP) ON THE ACADEMIC PERFORMANCE OF JUNIOR SECONDARY SCHOOL BUSINESS STUDIES STUDENTS IN IMO STATE, NIGERIA

Ezemoyih, Chuks  
Marcel<sup>1\*</sup>  
Tina Nweze<sup>2</sup>  
Theresa Nnenna  
Uwakwe<sup>3</sup>

<sup>1</sup>Department of Vocational and Technical Education, Alex Ekwueme Federal University Ndufu Alike Ikwo, Nigeria.

Email: [Ezemoyihchuks1961@gmail.com](mailto:Ezemoyihchuks1961@gmail.com) Tel: 08068262606

<sup>2</sup>Faulty of education, Department of Guidance and Counseling, Ebonyi State University, Nigeria.

Email: [drtyna2014@gmail.com](mailto:drtyna2014@gmail.com)

<sup>3</sup>Faulty of Management Science, Department of Accountancy, Alex Ekwueme Federal University Ndufu Alike Ikwo, Nigeria.

Email: [theresa2015@gmail.com](mailto:theresa2015@gmail.com)



(+ Corresponding author)

### ABSTRACT

#### Article History

Received: 17 May 2019

Revised: 24 June 2019

Accepted: 30 July 2019

Published: 13 September 2019

#### Keywords:

Compact disc  
Instructional packages  
Academic performance  
Secondary schools.

The study was aimed to examine the effect of video compact disc instructional packages (VCDIP) on the academic performances of Junior Secondary School Business Studies students in Owerri, Nigeria. A quasi-experimental design was used. The subjects were randomly placed into two treatment group. Treatment "Group A (Jss2A) was made up of 40 (15 males and 25 females) students exposed to VCDIP, while "Group B (JSS2C) was also 40 (17 males and 23 females) taught through conventional teaching mode. Three research questions and three null hypotheses guided the study. A copy of a 50 item researcher made questions and a copy of 10 affective response questionnaire were validated and used. A reliability index of 0.81 and 0.80 were calculated for the first and second instruments for the study using Kuder Richardson (KR - 21) and Pearson "r" respectively. The data were analyzed using mean, t-test and ANOVA. The study revealed that the students exposed to VCDIP performed slightly better than the conventional group. This implies that VCDIP can be effectively used as both supplementary material to the teacher and as alternative mediated self-instructional package to the learner.

**Contribution/Originality:** This study contributed to existing literature by providing the importance of use of video compact disc instructional package on the academic performance of junior secondary school Business Studies in Imo State, Nigeria. The uniqueness of this study is based on the variables video compact disc, Instructional package, Academic Performance and Secondary Schools.

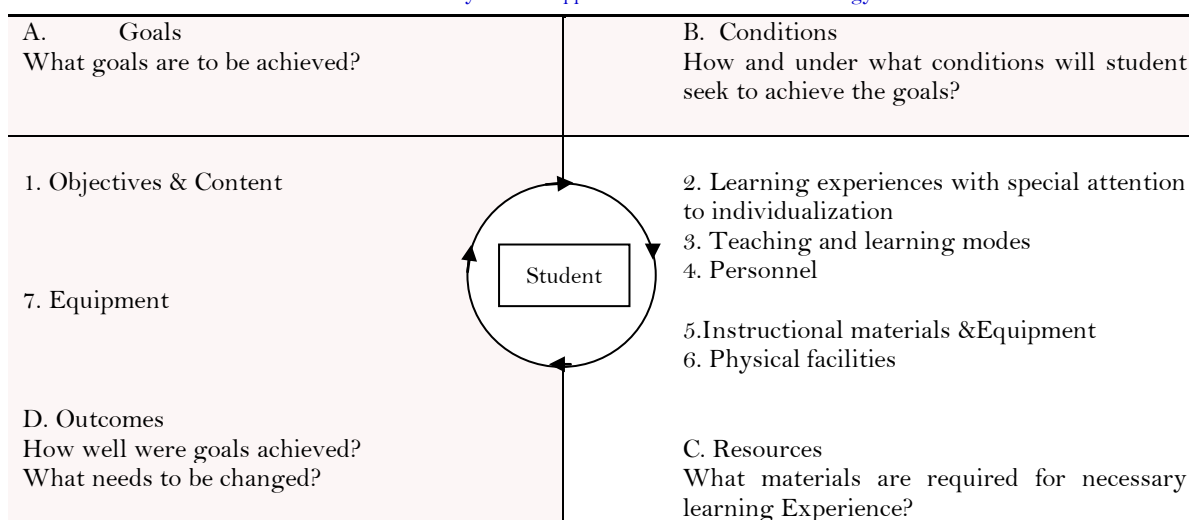
### 1. INTRODUCTION

For proper development for a developing country like Nigeria, it requires a well-planned curriculum. The educational content or the curriculum should sort the interest and age of the learner. This means that the appropriate curriculum, materials, texts, real objects and situations as well as audio-visual resources and other instructional devices should be prepared and integrated into curriculum implementation at all levels of Education. According to Brown *et al.* (2008) in Akunde (2005) seven elements of instructional planning, attention was based on students in respect of their needs, capabilities, special interest, motivation and learning styles. Akunde (2005)

opined that these features of students are also essential to decisions about individualizing learning activities for learners. The seven systematic approach to instruction identified to assist the learners are:

- Defining objectives and selecting contents.
- Selecting appropriate learning experiences and making attempts to individualize them.
- Selecting one or more appropriate teaching-learning modes to carry out the learning experiences.
- Assigning personal roles.
- Selecting relevant instructional materials and equipment.
- Choosing physical facilities necessary for the learning experiences.
- Evaluating results obtained and making vital recommendations for future improvements.

Table-1. The systematic approach of instructional technology.



Source: Ughamadu (1992).

Video Compact Disc (VCD) is the means of (Teaching/Learning Mode) of communication in this study. Fundamentally, the meaning of Video is the display of pictures on a Television-type screen (Heinich *et al.*, 2016) opined that “any media format that use a cathode-ray screen to present the picture portion of the message can be referred to as video Cassetts, Video compacts disc, Interactive video, Video games etc.”

Heinich *et al.* (2016) added that the audio and video quality of VCD is significantly better than that of film or videotape, hence becoming an increasing popular method of educational medium.

Video can be used as a tool for developing student’s listening comprehension and enhancing their inter-cultural competence as well as presenting new materials or consolidating what has already been presented the activities in the paper. The interest generated by development and extensive use of motion pictures as a medium of instruction has enhanced the value of audio-visual learning as opined by Dale (2016) that about:

- 75% of human knowledge is through the sense of sight.
- 13% through the sense of hearing.
- 6% through the sense of touch.
- 3% through the sense of smell.
- 3% through the sense of taste.

From the information above, it should be noted that if sense of seeing and hearing are put together, better result can be achieved. Akunde (2005) stated that the use of affective and psychomotor academic abilities. He added that video tapped lessons makes students to face to face teaching mode. According to Akunde (2005) Video Compact Disc instructional Package (VCDIP) can serve as a supplementary instructional package to business Studies teacher and alternative package to Business Studies learner. Flowers and Dunne-Sousa (1990) states that students can learn

without Business studies teacher if he has access to media capable of presenting information and he also added that video increases the teacher presentation of Business Studies and increases the learning capability of the learners. It reduces isolation, stimulates effective learning and improves feedback, bridge communication gap between the teacher and learner, sustains motivation, acts as teachers substitute and provided suitable learning.

Business studies and Business Education subjects taught at Junior Secondary School. According to Akunde (2005) business studies prepares learners in the Junior Secondary Schools for Business Education at the higher level of Education. According to Akunde (2005) business studies is foundation of Business Education taught in higher institutions in Nigeria.

Some of the methods used in the teaching of Business Studies are Lecture method, Demonstration method, Discussion Method, Problem inquiry/discovery method, field trip (excursion) method, Visual Aids method, Industrial co-operative plan method, questioning method, Sales talk of guest speaker method, assignment and project method. Video compact disc instructional package will be applied to these methods in the teaching of Business studies and impact of Video compact disc on the academic performance of Business studies students in Imo State will be studied.

### *1.1. Statement of Problem*

The researcher was opportune to participate in the 2012/2013 Junior Secondary School Certificate Examination (JSSCE) in Business studies and observed that the schools had only one female and male graduate Business studies teacher for both JSS and SSS classes in some schools. Secondary Education Management Board (SEMB) 2014 confirmed that, "Out of the 291 Public Secondary Schools only 100 schools offer Business Studies. For these 100 schools, there are only 128 teachers. This implies that for the remaining 191 schools business studies would not be offered to the students as a subject, contrary to the national policy on Education (NPE) requirements for JSS Business studies curriculum, could the reason be that the number of Business studies teachers in the state public secondary school grossly inadequate? Could lack of government efforts to employ more Business studies teachers responsible? What alternative teaching strategy can the education system adopt? Can video compact disc instructional package (VCDIP) be effective? Will video compact disc instructional package get more students interest in Business studies? The study is designed to answer these questions.

### *1.2. Purpose of the Study*

The main purpose of the study was to find out:

- If video compact disc instructional package (VCDIP) promotes learning in students of Business studies in Junior Secondary Schools in Imo State.
- If students taught with Video compact disc package will perform as well as those taught with conventional teaching approach.
- To determine if gender influences the academic performance of students exposed to the treatments.

### *1.3. Research Questions*

To guide the study, the following research questions were posed:

- To what extent will video compact disc instructional package promote learning in Business studies students?
- To what extent will Business studies taught with video compact disc instructional package (VCDIP) do as well as students taught with conventional teaching approach?
- To what extent will male and female influence the academic performance of Business students exposed to treatment?

#### 1.4. Research Hypotheses

The following hypotheses were formulated to guide the study at 0.05 level of significance:

*Ho:* The mean scores of students taught Business studies with video compact instructional mode differ significantly in promoting learning in Business studies in Junior Secondary schools Imo State.

*Ho:* The main scores of students taught Business studies with video compact disc instructional package and those taught without video compact disc instructional package do not differ significantly in academic performance in Business studies in Junior Secondary Schools in Imo State.

*Ho:* The means scores of male and female students taught Business studies using video compact disc instructional package do not differ significantly in academic performance in Business studies in junior secondary school in Imo State.

## 2. RESEARCH DESIGN

Quasi-experimental research design was used in the study. Intact group, pre-test –retest, control post-test design was adopted with Analysis of Variance (ANOVA) as a post-hoc control, thus:

Int. gp O<sub>1</sub> X<sub>1</sub> O<sub>2</sub>

Int gp O<sub>1</sub> X<sub>2</sub> O<sub>2</sub>,

However, X<sub>1</sub> indicates VCDIP treatment group.

X<sub>2</sub> indicates conventional treatment group.

O<sub>1</sub> Indicate pretest with researcher-made-test.

O<sub>2</sub> indicates post-test with researcher –made test.

#### 2.1. Population of the Study

The population of the study consists of all the Junior Secondary school year two (JSSII) students in Owerri education Zone. The population is 14366 students.

#### 2.2. Sample and Sampling Technique

In this quasi-experimental study, the researcher purposely selected one-co-education public secondary school. The school is comprehensive secondary school Ubomiri in Mbaitolu Local Government Area of Imo State Owerri. The researcher randomly selected Classes 2A (15males & 25 female) and 2C (17males and 23 females) from 6 streams. Each Class is made of 40 students.

Toss of the Coin random sampling technique was carried out to place the two treatment groups 2A becomes the treatment group A or the video compact disc group, while 2C also become the conventional group B.

#### 2.3. Instrument for Data Collection

Two instruments were used for the collection of data. The first instrument was Research-Made Business Studies performance Test (RBSPT). It consisted of fifty-item multiple choice questions. The second instrument was made up of ten item questionnaire on the effective responses for students exposed to video compact disc instructional package and the convention group. These test items were drawn based on the unit topic “money” in Business studies which was taught to the students. Other instruments include ten lesson notes and a story board outline.

#### 2.4. Validation of Instrument

The lecturers who hold their Ph.D in Business Education and are currently teaching at Alvana Model Secondary School Owerri validated the first instrument. The experts in the measurement and Evaluation of Imo State University, Owerri, validated the second instrument.

### 2.5. Reliability of the Instrument

The researcher used Pearson Product Moment Correlation Co-efficient, otherwise known as Pearson  $r$  formula to calculate the reliability index of the 10 effective response questionnaires. A reliability index of 80 was gotten. Kuder Richardson formula was used to calculate the reliability index of the 50 – item researcher made questions, and thus a calculated 0.81 was gotten.

Treatment: The first week was characterized with the collection of students data, randomization and administer of 50 item researcher – male-test as pretest to the two treatment groups (VC DIP and Conventional). Two lesson topics were taught per week to the conventional group face-to-face with the researcher and to the VCDIP group with VCDIP. When the research was teaching any lesson with the conventional group, the technician was at the same time recording the whole teaching and learning activities with video camera. At the end of every lesson period with the conventional group, the technician immediately move to his studio and converted the video tape lesson through burning it into video Compact Disc (VCD) as a video compact Disc instructional package (VCDIP) and used the same day by the VCDIP treatment group as their own mode of instruction.

The VCDIP group received their own lesson through television screen via VCD player. The 10 lesson topics lasted for five weeks, two weeks were also used for revision and administration of the same 50 – item questions, and ten affective response questionnaire. Hence the study lasted for eight weeks.

## 3. DATA ANALYSIS AND RESULTS

The presentation was done using research questions and hypothesis, respectively Pre-treatment and post-treatment scores of students were tabulated and their means calculated. T-test was used to calculate the hypotheses one and two. ANOVA f-test was used to calculate hypotheses 3, at an alpha level of 0.05. If the significance probability is less than 5% ( $P < 0.05$ ) then the treatment effect to the mean scores will become statistically significant. But if it is greater than 5% ( $P > 0.05$ ) then the treatment effect in the mean scores will not be statistically significant.

### 3.1. Research Question 1

To what extent will video compact disk instructional package promote learning in Business Studies students?

**Table-2.** Shows the mean effective response of promoting learning in students of business studies.

Items	SA <sup>4</sup>	A <sup>3</sup>	D <sup>2</sup>	SD <sup>1</sup>	X mean
1	33	7	-	-	3.82
2	27	13	-	-	3.67
3	29	11	-	-	3.72
4	25	14	1	-	3.60
5	26	12	2	-	3.50
6	31	7	2	-	3.72
7	30	9	1	-	3.67
8	29	10	1	-	3.26
9	27	12	1	-	3.65
10	29	11	-	-	3.72

Mean response score per item 3.64 the effective responses of the students on how they feel about the use of VCDIP in promoting learning in Business Studies contains 10 items. The sum of the mean responses scores of 10 items is 3.6365. Hence, the mean responses score per item is an approximately 3.64. The 4-point modified likert scale has the following class intervals for decision making in Table 3.

Table-3. 4 point modified scale class interval for decision making.

1.00-150	1.51-250	2.51-350	3.51-400
Highly negative	Negative	Positive	Highly positive

Therefore, judging from the scale in the table, it is concluded that the students' response of 3.64 to the use of Video compact disc instructional package in teaching of Business studies in highly positive. This means that the students showed high interest in learning Business studies with VCDIP.

3.2. Research Question 2

To what extent will students taught with video compact disc instructional package do as well as those taught with the conventional teaching approach in Business studies?

Table 4 shows the main score obtained by the business studies student taught Business studies with compact disc instructional package and those taught Business studies with conventional modes.

Table-4. Mean score obtained by the Business studies students taught business studies with compact disc instructional package and those taught business studies with conventional modes.

Teaching modes	N	Post-test X	SD	Difference
VCDIP	40	34.15	10.18	4.58
Conventional	40	29.58	8.05	

The researcher-made Business studies test has 50 items with multiple-choice answers. Those who are exposed to VCDIP have a mean score of 34.15, while those who were exposed to conventional approach is 29.58. The mean score difference between the two groups is 4.58.

This means that Business studies student showed high interest in teaching Business studies with video compact disc instructional package than those who were exposed to conventional approach.

3.3. Research Question 3

To what extent will gender influence the academic performance of Business studies exposed to treatment?

Table 5 shows mean scores obtained by the male and female Business studies students taught with VCDIP and those taught with conventional modes.

Table-5. Mean score obtained by the male and female business studies students taught with VCDIP and those taught with conventional modes.

Teaching	Gender	N	Interest	Post-test	SD	X difference
Conventional	Female	25	14.88	40.88	5.82	17.69
	Male	17	12.18	23.76	4.97	
	Female	23	14.48	33.86	7.19	10.10

The mean scores of male exposed to video compact disc instructional package 22.93 while mean scores of female is 40.88. The difference between them is 17.69. However, the mean scores of male exposed to conventional group are 23.76 while female is 33.86. The difference between male and female is then 10.10. This shows that female Business studies exposed to video compact disc instructional package and conventional teaching modes performed slightly better than male exposed to the same treatment.

Ho<sub>1</sub>: The mean scores in a researcher-made business studies test of students taught business studies using video compact disc instructional package and conventional approach do not differ significantly in the promotion of teaching business studies?

Table 6 shows the result of t-test analysis testing null hypothesis that there is no significant difference in the promotion of learning of students taught business studies through video compact disc instructional packages and conventional modes.

Table-6. The result of t-test analysis testing null hypothesis that there is no significant difference in the promotion of learning of students taught business studies through video compact disc instructional package and conventional modes.

Mode	N	X	SD	DF	LS	Computed T	Critical T	Prob.	Decision
VCDIP	40	34.15	10.18						Reject
				178	0.05	2.23	1.96	0.029	
Conventional	40	29.58	8.05						

Table 6 showed that the computed “t” 2.23 is greater than the critical “t” 1.96 and the probability level 0.029 is less than the null hypothesis was rejected and on this result, the null hypothesis was rejected and the alternate hypothesis accepted that there are significant differences at 0.05 or 5%. That is, VCDIP group performed slightly better than conventional group.

Ho<sub>2</sub>: There is no significant difference in the scores male and female business studies students taught business studies with video compact disc instructional package will do as well as those taught with conventional modes.

Table 7 show results of t-testing the analysis that there is no significant differences between male and female business studies with video compact disc instructional package will do as well as those taught with conventional modes.

Table-7. Results of t-test the analysis that there is no significant differences between male and female business studies with video compact disc instructional package will do as well as those taught with conventional modes.

Mode	Gender	N	X	SD	DF	LS	Computed T	Critical	Prob.	Decision
VCDIP	Male	15	22.93	3.84	38	0.05	10.61	1.96	00	Reject
	Female	25	40.88	5.82						
Conventional	Male	17	23.76	4.97						
	Female	23	33.87	7.19	38	0.05	4.98	1.96	00	

Table 7 showed that the computed ‘t’ value for male and female students exposed to VCDIP is 10.61 and is greater than the critical ‘t’ value 1.96 and the probability 0.00 is less than 0.05 or 5%. While the computed ‘t’ scores of male and female exposed to conventional teaching mode is 4.98 and is greater that critical ‘t’ scores of 1.96, and the probability level is 0.00 and is less than 0.05 or 5%. Based on these results the null hypothesis was rejected and alternate hypothesis accepted that there is significant gender difference of the performance of female student taught business studies through VCDIP and conventional teaching mode at 0.05 level of significance. This shows that female students performed slightly better male students when exposed to the same teaching modes.

Ho<sub>3</sub>. There is no significant interaction effect of treatment and gender among student’s performance in Business studies.

Table 8 Shows result of analysis testing the null hypothesis treatment and gender among students performance in Business Studies.

**Table-8.** Result of analysis testing the null hypothesis treatment and gender among students performance in business studies.

Source	Sum of square	DF	Mean square	Computed F	Critical F	Prob.	Decision
Mode	85653.76	4	21413.44	637.89			Reject
Method sex	85653.79	76	21413.44	637.89	2.48	0.00	
Error	2551.24		33.57				
Total	88205.00	80					

Table 8 showed that the computed F (637.89) is greater than the critical F (2.48) and probability (.000) is less than the level of significance (0.05). Based on this result, the null hypothesis was rejected and the alternate hypothesis accepted that there is significant interaction effect between the male and female students exposed to the two teaching modes.

#### 4. DISCUSSION OF RESULTS

The purpose of this study was to determine the effect VCDIP had on the academic performance of Junior Secondary School Business Studies Students in Owerri. The findings showed that students who were exposed to VCDIP reacted highly positive and indicated very high level of interest and likeness. This means that video can stimulate students' interest.

The findings of this study also revealed that VCDIP group performed slightly better than the conventional teaching mode. This agrees with Akunde (2005) that videotaped lesson can serve as alternative to face-to-face teaching mode, which increases the students cognitive, affective, and psychomotor academic abilities. This also means that VCDIP can be used as a supplementary instructional package to the teacher and as an alternative to the learner, especially when the teacher is unavoidably absent (Akunde, 2008). The findings are not unconnected with Dale (2016) that 75% of human knowledge is through the sense of sight and 13% through the sense of hearing.

Again the study proved that gender does not influence the study of Business Studies with VCDIP, because they performed basically the same. The females performed slightly better than the male. However both can equally study with VCDIP without being disadvantaged. This is in agreement with Ajayi (2013) that students can learn without the teacher, if he has access to media capable of presenting information. Finally, this can serve as a reference material to other related studies.

#### 5. CONCLUSION

The application of educational technology principles and processes in our teaching and learning is an innovation in our education practice. It is an exercise that demands the creative abilities of the practitioner in order to solve the prevailing education problems. The study has proved VCDIP can be used as both a supplement and an alternative medium to the teaching and learning of Business Studies in Junior Secondary Schools, due to its attractiveness to the students' interest. VCDIP will also help students to study hard, retain longer and prepare favourably for any examination, even without any Business studies teacher. Hence government should provide an enabling encouragement to researchers in order to mass-produce the VCDIP in every Business studies unit topic and distributed to schools.

#### 6. RECOMMENDATIONS

1. Video compact disc instructional package (VCDIP) should be used as both supplementary material to conventional teaching and learning of Business studies.
2. VCDIP should also be used as alternative self-instructional medium to conventional teaching and learning of Business studies.



3. Teachers and researchers should be encouraged by making funds available and accessible to help produce VCDIP on every topic of any subject.
4. National educational technology centre (NETC) Kaduna should mass-produce these VCDIPS and distribute to various state educational technology and libraries in the country for students and also for distance learners.
5. The federal, state and local governments should accomplish rural electrification schemes to enable every classroom benefit from the dividends of educational technology.

**Funding:** This study received no specific financial support.

**Competing Interests:** The authors declare that they have no competing interests.

**Acknowledgement:** All authors contributed equally to the conception and design of the study.

## REFERENCES

- Ajayi, Y., 2013. Production of instructional media. In Agun, I and Imagic I (Eds.), Fundamentals of Educational technology. Ibadan: Y. Books.
- Akunde, I., 2005. The use of video taped lesson as alternative to face-to-face approach teaching for secondary schools geography. An Unpublished Dissertation Faculty of Education, Imo State University Owerri.
- Akunde, I., 2008. Use of video compact disc instructional package as a supplement to conventional teaching and learning arts in junior secondary school in Imo State. (Unpublished Doctoral Dissertation) Imo State University, Owerri.
- Brown, J.W., R.B. Lewis and F.F. Harcleroad, 2008. A.V. instruction: Technology, media and methods. New York: McGraw-Hull Book Company.
- Dale, E., 2016. Audiovisual methods in teaching. 3rd Edn., New York: The Dryden Press Holt, Rinehart and Winston Inc.
- Flowers, P.J. and D. Dunne-Sousa, 1990. Pitch-pattern accuracy, tonality and vocal range in preschool children's singing. Journal of Research in Music Education, 38(2): 102-114. Available at: <https://doi.org/10.2307/3344930>.
- Heinich, R., M. Molenda and J.D. Russell, 2016. Instructional media and new technologies of instruction. New York, Owerri: Macmillan Publishing Company. Imo State Secondary Education Board 2008.
- Ughammadu, K.A., 1992. Educational technology and microteaching for teaching effectiveness. Onitsha: Emba Printing and Publishing Company Ltd.

*Views and opinions expressed in this article are the views and opinions of the author(s), World Journal of Vocational Education and Training shall not be responsible or answerable for any loss, damage or liability etc. caused in relation to/arising out of the use of the content.*