



Professionals' Verdict on Video Instructional Package for Junior Secondary School Students in Basic Technology

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ABSTRACTS

Advances in technology have brought instructional media to the forefront as the most radical tools of globalization and social development which have influenced the classroom teaching/ learning situation positively. Such technological breakthroughs are important landmarks in knowledge transfer. There are several acclaimed video packages which may not be perfectly suitable for instruction thus there is need to evaluate any package that should be used for learning. The main purpose of this research was to investigate experts' evaluation on the video instructional package for junior secondary school students in basic technology. This research was a research and development research method and the respondents comprised of 20 experts studying at the University of Ilorin, Ilorin, Nigeria. The findings established that Experts rated the video instructional package to be very effective and good for learning. It was however recommended that Computer literacy programme should be provided for both students and teachers for full integration of ICT resources in Science Education Programme.

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1. INTRODUCTION

Education is an essential tool for social and economic growth of a country. Anyone who has the basic educational skills; like reading and writing, these basic skills can increase the person's income up to 10%. It is safe to say that education is the perfect weapon that lift can individuals to freedom and helps to eradicate poverty and hunger. Different nations of the world have declared that it is the right of every person to get education by speaking through the Universal Declaration of Human Rights (Madani, 2019).

Technology can be a powerful tool for transforming learning. It can help affirm and advance relationships between educators and students, reinvent our approaches to learning and collaboration, shrink long-standing equity and accessibility gaps, and adapt learning experiences to meet the needs of all learners. Our schools, community colleges, adult learning centers and universities should be incubators of exploration and invention. Educators should be collaborators in learning, seeking new knowledge and constantly acquiring new skills alongside their students. Education leaders should set a vision for creating learning experiences that provide the right tools and supports for all learners to thrive.

There have been efforts to define technology. According to Carroll (2017), it is in the work of pre-Socratic Greek philosophers that we first glimpse at the word "Logos," which implicates the principle of creation that was conveyed in the meaning of "Techne." Nevertheless, it was only over the last century and a half that the use of the word technology and clarity of its meaning and concepts became widespread. Technology refer to all tools and procedures used for manufacturing and producing materials needed for daily life. Technology is an integrating activity, which draws on many different disciplines, it has practical and experimental elements. It depends on fusing the qualitative and quantitative aspects of design. It is through this activity that we have fashioned our world and determined much of our quality of life.

Video Instruction is a kind of Multimedia aimed at solving problems of teaching and learning through the use of audio, audio-visual, graphics and animations to facilitate effective teaching/ learning. Hardware and software are the two structural component of this technology which are being manipulated or rather being put into use to bring clarity and better understanding of the processes of teaching and learning. video instructional package as an instructional strategy has tremendous impact on the academic performance of students (Halliru and muhydeen, 2018).

(Satyaprakasha & Sudhanshu, 2014). established that students taught biological concept using video Multimedia performed better than their counterparts in the conventional method. In another study by John et al (2018), the study confirmed the assertions of (Satyaprakasha & Sudhanshu, 2014). Because the study revealed that, students taught biology with multimedia instructional video performed better than those taught with lecture method. Furthermore, male students outperformed their female counterparts.

Despite the relevance of basic technology, the cry for poor implementation of the curriculum for basic technology still poses a challenge to secondary education. Odu (2013) exclaimed that, unfortunately, a recurring problem besieging basic technical education since its inception has been the absence of adequate facilities to foster effective teaching and learning. This lamentation by Odu, prompted to suggest the adoption of improvisation of instructional materials by teachers of Basic Technology. He said improvisation of instructional materials is the preparation and the provision of alternatives to real materials as teaching aids. The inadequacy of instructional materials for teaching is therefore responsible for the idea of adoption of improvisation by teachers to be able to cover areas of needs in classroom situation (Okenjom et al., 2016).

Achebe (2018) reported that there was no gender difference in the achievement and retention of students taught Food and Nutrition with video instructional package. Abidoye (2015) found no significant difference between male and female students taught geography using video package. Aggarwal and Dutt (2014) reported that male and female secondary in senior secondary schools performed equally better when exposed to videotape instructional package in biological science class. However, this contradicts the results of John *et al* (2018) who found that male students outperformed their female counterparts after exposing them to instructional Video Package in biology class at senior secondary school level.

Basic technology being one of the vocational subjects offered by the upper basic school, has been bastardized by diverse issue having to do with the qualities of instructional delivery, and in turn has led to students' poor performance in the subject. It is very important to note that without the knowledge of basic technology, Nigeria as a nation might be left behind in the scientific and technological race. This then means that there is need for adequate commitment in the teaching and training of basic technology in our junior secondary schools. The thoroughness in the teaching of basic technology will lead to the accomplishment of the objectives of vocational and technical education programmes at the higher level of our educational system which is the major plight of Nigeria as a Nation. Furtherance of our youths in the skills and other engineering oriented courses at our tertiary institutions is highly dependent on their earlier knowledge and skills acquired at the secondary school level.

The main purpose of the study is to know the experts' evaluation on the video instructional package for junior secondary school students in basic technology, specifically, this study: -

1. Determined experts' evaluation on the video instructional package
2. Examined the difference between male and female experts' evaluation of the video instructional package for junior secondary school students in basic technology

The following questions guided my findings in this study:

1. How do experts evaluate the video instructional package?
2. Is there any difference between male and female experts' evaluation of the video instructional package for junior secondary school students in basic technology?

The following hypothesis were tested at 0.05 level of significance:

Ho1: There is no significant difference between male and female experts' evaluation of the video instructional package for junior secondary school students in basic technology.

2. METHODS

The design that was adopted for this study is descriptive research design. Experts evaluated the video instructional package. The population of the study consists of 20 professors and readers from the department of educational technology and computer science from different faculties. The selection of the sample for this study was given careful consideration bearing in mind the purpose of the study. The research instrument was an Experts' Rating Questionnaire (ERQ) contain two sections (A-B). Section A contain the respondent's bio data, section B investigated experts' rating on the video instructional package.

The validity of the instrument is the extent to which the instrument measures what it supposed to measure. In ensuring the validity of the instrument adopted for the research, the research instrument was given to the supervisor, two education technology experts and two basic technology experts to check for corrections and modifications. The corrections as effected and declared the instrument to be valid. The reliability of the instrument is the consistency, accuracy, stability and trustworthiness of the measuring instrument and the score obtained from the questionnaire was the same for different number of time of its

administration. The reliability was carried out using test and retest method on 5 lecturers from University of Ibadan, Nigeria which are not part of the school that was used in the original study.

In carrying out the research, the researcher first request for approval from each of the authority of the selected schools and notified them about his research after obtaining a letter of introduction from department of Education Technology University of Ilorin. The instrument was administered to the experts. The respondents were informed about the purpose of the study and after which they were given the instrument for response. The researcher visited the selected faculties to carry out the experiment and administer the test instrument on the study subjects; after completion, the test scripts was collected and used for analysis. These procedures were followed in order to collect relevant data on evaluation of instructional video package.

The data obtained from the study will be subjected to descriptive and inferential statistics. Frequency, Mean and percentage were used to answer the research questions while the formulated hypotheses were tested using t-test. All hypotheses were tested at 0.05 level of significance.

3. RESULTS AND DISCUSSION

3.1. Research Question One

How do experts evaluate the video instructional package?

In other to evaluate the instructional package, 4 experts rated the package with rating scale of 5 to 1 with 5 the maximum. Frequency count and percentages were hired to govern the expert evaluation of the video instructional package. The result is shown in **Table 1**.

Table 1. Experts' evaluation of the package

S/N	Items	5	4	3	2	1
1	Package Clear and Understandable	3(75%)		1(25%)		
2	Structure of the package permits learners to pause or skip at will			4(100%)		
3	Package permits learners to review the enter unit or escape to explore another unit		2(50%)	2(50%)		
4	Package permits learners to revisit a completed unit		3(75%)	1(25%)		
5	Package is Reliable		4(100%)			
6	Package is balanced and precise		4(100%)			
7	Package is error free and current		4(100%)			
9	Package is easy to utilized		4(100%)			
10	Package has good images And Illustrations Validity	3(75%)	1(25%)			

Note: 5=Excellent, 4=Very Good, 3=Good, 2=Fair, 1=Poor

The response to the rating of the instructional package by the experts were presented in table 1. 75% of the experts rated the package to be very clear and understandable, all the experts agreed that the structure of the package permits learners to pause or skip at will and package permits learners to review the enter unit or escape to explore another unit. Thus, experts rated the video instructional package to be very effective and good for learning.

3.2. Hypothesis One

There is no significant difference in the expert rating by male and female on the Instructional Video Package.

In retort to this, an independent t-test was conducted to determine if there is any significant difference significant difference in the expert rating by male and female on the Instructional Video Package. The result is shown in **Table 2**. The statistics shows significant difference in the mean achievement scores by gender.

Table 2. T-test of Male and Female expert evaluation of Instructional Video Package

Gender	No	\bar{X}	SD	Df	t	Sig. (2-tailed)
Male	11	41.36	1.28	16	3.36	0.17
Female	7	42.37	1.79			
Total	18					

$P < 0.05$

Table 2 indicates that $t(13) = 3.36$, $p = .17$. This means that the stated null hypothesis was rejected. This was as a result of the t-value of 2.30 resulting in .17 significance value which was less than 0.05 alpha value. By implication, the stated null hypothesis was established thus: There is no significant difference between male and female experts' evaluation of the video instructional package for junior secondary school students in basic technology. In other words, based on the both the male and female expert rated the effectiveness of instructional video package on the basic technology excellent.

The findings of this study revealed that Experts rated the video instructional package to be very effective and good for learning. This was facilitated by a study from Bumia (2017) who worked on "Comparative effectiveness of video and print instructional packages for teaching basic technology concepts in Nigerian schools" and he reported that video instruction is one of the audio-visual media that could be used to facilitate instruction. He added that video instruction appeals to senses of hearing and sight. as reported by Bumia (2017), recent advances in multimedia and communication technologies have resulted in powerful learning system with instructional video components. Video is rich and powerful medium used in learning. It can present information in attractive and consistent manner.

Basic Technology Instructors should promote student engagement with educational videos by creating or packaging them in a way that conveys that the material is for these students in this class. One of the benefits for instructors in using educational videos can be the ability to reuse them for other classes and other semesters. When creating or choosing videos, however, it is important for teachers to consider whether they were created for the type of environment whether conventional or online in which they will be used. A video's adaptability can be enhanced, however: when reusing videos, instructors should package them for a particular class using text outside the video to contextualize the relevance for that particular class and lesson. This will help in proper usage of Video packages for effective teaching of Basic Technology.

Curriculum planners should emphasize the importance of using instructional video when teaching basic technology by the teachers in secondary schools. Teachers in secondary schools should be encouraged by school administrators to use instructional video packages when teaching basic technology. This will go a long way in proper and efficient delivery of instruction.

4. CONCLUSION

Expert rated the video instructional packages to be good in improving students' performance and interest in Basic technology than conventional teaching methods. This means that the performance of Basic technology students did not depend on gender but on cognitive abilities and teaching strategy used by the teacher. These results therefore revealed that VIP-based learning is a viable alternative to the conventional teaching methods in teaching Basic technology.

5. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

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