

## Effect of Video Clips Instruction on Secondary School Student's Achievement and Interest in Tie and Dye in Yobe State, Nigeria

<sup>1</sup>Christopher Ifeanyi Ibenegbu, <sup>2</sup>Rita Doris Ubah and <sup>1</sup>Iliyasu Umar Maina Kaina

<sup>1</sup>Department of Arts Education, University of Nigeria, Nsukka, Nigeria, Nigeria

<sup>2</sup>Department of Fine and Applied Arts, University of Nigeria, Nsukka, Nigeria

**Key words:** Tie, dye, video clip, achievement, interest, visual arts

### Corresponding Author:

Christopher Ifeanyi Ibenegbu  
Department of Arts Education, University of Nigeria,  
Nsukka, Nigeria

Page No.: 2959-2965

Volume: 15, Issue 15, 2020

ISSN: 1816-949x

Journal of Engineering and Applied Sciences

Copy Right: Medwell Publications

**Abstract:** The study investigated the effect of video clips instruction on secondary school student's achievement and interest in tie and dye in Yobe state, Nigeria. The study employed a non-equivalent quasi-experimental research design. The sample size for the study was eighty secondary school students from twoschools in Yobe state. The instruments used for the study were the Visual Arts Achievement Test (VAAT) and Visual Arts Interest Inventory (VAII). Two hypothesis were tested. The data were analyzed using descriptive statistics and Hierarchical Analysis of Covariance (ANCOVA). The results showed that there was a significant main effect for video clips for students achievement in tie-dye  $F_{(1,77)} = 1840.169, p = 0.000$ ; there was a significant main effect for video clips on students interest in tie-dye  $F_{(1,77)} = 13140.798, p = 0.000$ . The study recommended that Ministries of Education should ensure that curriculum planners should incorporate the use of video clips in teaching and learning of visual arts in secondary schools.

## INTRODUCTION

The world is moving rapidly towards innovation and creativity. Many countries in the world used passion and creativity to explore their cultural identity through indigenous craft practice. Tie-dye is one of the local craft that people from different continents practised over years including the African countries. According to Solomon and Ezra<sup>[1]</sup>, tie-dye is a method of folding and tying of cloth to avoid the penetrating of dye. A dye is a substance used to impart colour to textiles, paper, leather and other materials. The designer cannot alter the colouring by washing, heat, light or other factors to which the material is likely to be exposed<sup>[2]</sup>. Tie-dye is a method of colouring materials by tying or stitching fabric together to prevent

the absorption of dye to a particular area. The tie-dye technique involves various methods of folding fabrics, tying, binding and dyeing of the fabric in a dye bath<sup>[3]</sup>. The binding prevents the tied portions of the fabric from receiving the dye and the bounded parts untied, reveal the dyeing designs. Dyeing is the process of applying colour on a cloth to produce a design. Although, the techniques of tie-dye vary from culture to culture, the concept of dyeing remains one of the oldest methods of printing design on fabric. Tie-dye is a modern term for a set of ancient resist-dyeing techniques and the products of these processes. The process of tie-dye typically consists of folding, twisting, pleating, knotting, stitching, tying or crumbling fabric of a garment and binding with string or rubber bands, followed by application of dyes. The

manipulations of the fabric before the application of dye are called resists as they partially or completely prevent the applied dye from colouring the fabric. The designer can tie cloth with strong strings in various ways before immersing it in the dye bath. The colour is absorbed in all except the tied areas thus revealing a patterned result which appears by untying the dyed material.

Tie-dye is practised in many parts of the world. The process for tie-dye varies across the globe but the traditional methods in Nigeria and most parts of African countries are similar<sup>[5]</sup>. The process entails; fabric preparation, removal of starch, mercerization operation, before the cloth is tied or knotted in certain areas and then dyed. The dye cannot penetrate the tied areas and so, patterns can form in the fabric. Stones and shells are often used to form models in fabric. The artist can repeat tying process for subsequent colours until it is finished. The materials used for tie-dye are cotton materials, dye, hydrosulphite, caustic soda, common salt, cotton thread for tying, cold water and nose mask/guard. Others are safety glasses/sunshade, apron/overall, rain boot, petroleum jelly, mouth mask/guard, dye pot or any container that can be used to dye, rubber gloves to cover hands, spoon, scissors, thread pebbles or guinea corn seeds, long stick for stirring during dyeing. The common dyes chemicals used for tie-dye in Nigeria are caustic soda, sodium hydrosulphite, soda ash and common salt. The dye chemicals are suitable for some fabric like cotton, burlap, linen, some rayon and wool. While some like nylon, polyester and acrylic are not suitable for tie-dye because it will not allow the dye chemicals to penetrate through the fabric<sup>[6, 7]</sup>. The quality of a good tie-dye depends on the fabric and method the artist adopted in the period of processing.

The available methods are the circle, pleating, knotting, clumb, marbling, spiral, coil and stitching method. But in Nigeria, the common methods for dyeing fabric are circle, knotting, marbling and pleating method. The procedures for dyeing include Step I is to boil water on the fire. Step II is to fold and tie the cloth according to the desired design. Step III mix the dye chemical with boiled water ensuring that you wear gloves and put the tied cloth immediately. Step IV stirs constantly for some minutes and remove the cloth from the dye bath; Step V rinse the cloth well in cold water and spread it to dry. If one is using more than one colour, allow it to dry. If the designer wants to use more than one colour, the designer should start with the lightest, colour and Step VI the designer should use the string, raffia or rope, re-tie the cloth and put in the next dye bath. Therefore, these steps of tie-dye process are not learned or done in a vacuum but rather to be taught by an expert. The expert explains the systematic process for the students to master the process

to acquire the required skills for tie-dye. Aggarwal<sup>[8]</sup> viewed practical work as a type of work aimed at providing direct experience to students and equally enable the students to fully understand principles, phenomena and processes by the investigation. In tie-dye, the students will learn all the procedures needed in tie-dye.

Tie-dye is a content area in visual arts subject in secondary schools. The concept of the tie-dye process, the method is a process and materials selection delivered through the curricular in instruction. The low achievement in tie and dye necessitated the use of video clips instruction to help students to learn and develop more interest in the area. WAEC Chief Examiner's Report of May/June 2014 and May/June 2017 showed that students do not have good attempts in most questions set in these areas thereby affecting the student's achievement in Senior Secondary School tie-dye process. Therefore, the need to improve student achievement through video clips may be an alternative.

Video clips is a short electro-motion picture that is part of the larger recording that mostly <15 min or any short video less than the length of a traditional video. The video clip is simultaneously integrated into core intelligence, engage both hemispheres of the brain and manipulate student's alpha and beta brain waves that is relax or make them alert in teaching and learning<sup>[9]</sup>. Video clips are a highly effective educational media<sup>[10]</sup> and it increases student's engagement towards the learning materials<sup>[11, 12]</sup>. Teaching tool is potential to tap as instructional tools that provide powerful cognitive and emotional experience to students/learners. Video clips convey a message to learners at a deeper level of understanding by touching their emotion. Scott stated that pictures represent 1000 words while motion pictures represent 1 million words of explanation. Several studies have shown that video instruction has a significant effect on student's achievement in teaching and learning<sup>[13-17]</sup>. The video clips instructional media, therefore, may contribute greatly to instructional delivery.

Video clips instruction also refers to resources information transform through electronic visual and audio to the learner. Suleiman maintained that instructional media are media that come in visual, audio and audiovisual forms that aid in comprehending abstract concepts, ideas and phenomena in the teaching and learning process. Video clips instruction is an instructional delivery drive method of teaching from the teacher to learner in a well-developed and customized form to change behaviours of the learner. The assertion of Darling-Hammond *et al.*<sup>[18]</sup> reflects that the instructional technique employed by the teacher plays an important role in the acquisition of skills and meaningful learning. There are numerous instructional materials available for

teachers to use to teach a lesson and promote life-long learning which video clip is one of them. Given this assertion, Yusuf<sup>[19]</sup> reiterates that instructional materials are those things that the teachers use to enhance student learning such as books, charts, audio-visual aids and resource person among others. Video clips as an instructional media when well developed it will concretize and enhance the teaching and learning process. The video clips instructional media has the capacity of influencing all the senses and improve the learner's achievement.

The learner's achievement will increase by watching the process of tie-dye in video clips that are not available in traditional classrooms. Oladejo *et al.*<sup>[20]</sup> reported that traditional classroom has the characteristics of teacher's domination, learners are passive, methods of instructions are largely expository, the teacher makes little if any use of curriculum resources and the classroom setting is neither creative nor congenial for teaching and learning. Based on the above nature of the traditional classroom, the teaching and learning of tie-dye may not be effective and efficient. Aroh<sup>[21]</sup> reported that in a conventional approach, the teacher communicates ideas to learners by direct verbal discourse. In support, Mabekoje lamented that the method of teaching in Nigerian classrooms is talk and chalk and that the teachers parade themselves as the central figure. The author further noted that the implication is that learners become discouraged and passive. Teachers often use questions and answers technique, read from textbooks, copy notes on the chalkboard for students to copy when teaching. The above type of approach is a teacher-centred, hence, encourages rote learning and fails to motivate student's interest and increase academic achievement.

Achievement refers to what individual or collective gets because of accomplishing or carrying out a planned goal. According to Ogbu<sup>[22]</sup>, achievement in education specifically refers to student's success in learning specified curriculum content. Achievement can have a great influence on teaching media, teaching methods, instructional delivery channel and student's long-term memory. Okeke<sup>[23]</sup> stated that student's achievement has a close link with teacher's method of teaching and instructional media. Instructional media adopted by the teacher, especially, video clips could either enhance or determine student's achievement in any subject. Instructional media employed by teachers can attribute to student's poor achievement in tie-dye instruction<sup>[24]</sup>. The inappropriate medium of instruction and ineffective instructional media the teachers adopt could also be responsible for the poor achievement and interest of the students in tie-dye.

Student's cannot learn tie-dye effectively with the use of traditional instructional materials the teachers use in

teaching and learning. Aroh<sup>[21]</sup> stated that in classrooms, both the teachers and the students could make learning easier with appropriate instructional materials like media to facilitate teaching and learning. Livinus wrote that instructional media referred to as the wide varieties of equipment and materials used to enhance teaching and learning. Isola<sup>[25]</sup> viewed them as didactic materials or things which are supposed to make teaching and learning possible. Instructional materials are concrete and physical objects which offer sound, visual or each to the sense organs throughout teaching<sup>[26]</sup>. Ojebisi<sup>[27]</sup> asserted that these learning materials refer to objects or devices which the teacher uses to make the lesson much clearer and interesting to the learner. Video clips are one of the learning materials that make teaching and learning interesting to the learners.

Interest is that the feeling of someone who his attention, concern or curiosity is especially engaged by one thing. Ngwoke and Eze<sup>[28]</sup> assert that interest could be a psychological issue that tends to form students participates actively within the sensible lesson. Interest is vital in education as a result of it engenders active info seeking character within the learners like persistence, attention, conception and feeling of surprises, excitement and enjoyment and these play a central role in learning processes. Nnaka associated Aneakwe cited by Aroh<sup>[21]</sup> stressed that once a learner has associate extreme likeness for an activity, object or events; he/she participates or interacts with it a lot of often. Therefore, they are could be a got to investigate the have an effect on of video clips instruction on students interest and action in tie-dye. The researchers anchored this study on image Systems Theory developed by Gavriel financier in 1977 to clarify the results of media on learning. The speculation states: that the image systems of media result the acquisition of information during a variety of how. First, they highlight completely different aspects of the content. Second, they vary with relevancy simple cryptography. Third, specific cryptography parts will save the learner from troublesome mental embellishments by overtly displacement or short-circuiting specific elaboration. Fourth, image systems disagree with relevancy what quantity process they demand or permit. Fifth, image systems disagree with relevancy the forms of mental processes they invoke for cryptography and elaboration. Thus, image systems part confirms who can acquire what quantity information from what forms of messages. For effective educational communication, a match must establish between the psychological feature demands of a learning task, the abilities needed by the codes of the message and therefore, the learner's level of mastery of those skills. This is often extremely appropriate for the study therein the tie-dye method is sensible home ward-bound and desires high skills within the teaching and learning of it.

## MATERIALS AND METHODS

**Hypothesis:** We tested the following null hypothesis at a 0.05 level of significance:

- $H_{01}$ : there is no significant difference in the mean achievement scores of students taught tie-dye using video clips instructional media and conventional media
- $H_{02}$ : there is no significant difference in the mean interestscores of students taught tie-dye using video clips instructional media and conventional media

**Design of the study:** This study employed a quasi-experimental research design. The researchers used intact classes for the study. Consequently, the design is a pretest-posttest non-equivalent control group design.

**Participants:** The participants were 80 secondary school students from two intact classes in two secondary schools in Yobe State, Nigeria. Participants received credit for their participation. The age range was narrow: from 13(50 students) to 14(30) years old with a mean age of 13.38 (SD = 0.49). The participants were divided into two groups of 42(52.5% video group) and 38(47.5% conventional group) participants each without any criteria of choice. The participants were African. We selected two secondary schools purposively from 41 secondary schools in Yobe state. We selected the schools based on schools with only one stream of SSI class, schools close to each other to make the supervision of the experiment easier and schools that are comparable in terms of similar facilities. We asked the participants to participate in a study for an experimental tie-dye processes class. We excluded 13 participants because they failed to do the pretest. This was because of ill health and other unforeseen circumstances. Participants completed the experiment the stipulated time.

The instrument used for data collection was researchers-made Visual Arts Achievement Test (VAAT) designed to assess student's achievement in tie-dye processes and Visual Arts Interest Inventory (VAII). The instrument was face validated. Experts in Education Fine and Applied Arts at the University of Nigeria, Nsukka, validated the instruments. The experts scrutinized the instruments in terms of relevance, general format, suitability, structure and adequate timing. A clear concept of tie-dye process was covered. We modified the instructions along the line suggested to make them clearer to the students. We also established the content validity using a table of specification to ensure that the items had content validity in line with the content. The 30-item VAAT were multiple-choice questions. The time allowed for the test was 50 min. A marking scheme was prepared and used to score the test. The reliability of the VAAT was 0.93 determined using Kuder-Richardson formula 21

on test scores of 30 SSI students. The VAII was a 20-item instrument with a 4-point rating scale of Strongly Agree (SA), Agree (A), Disagree (D) and Strongly Disagree (SD). The reliability of VAII was 0.87 determined using Cronbach's alpha statistic to ascertain the internal consistency of the instrument.

**Development of instructional materials:** We developed Tutorial video clips for the experiment. This is type of instructional video for teaching a process or providing systematic instructions. This was suitable for the experiment because tie-dye training involved processes. We produced the videos to last between 5-10 min long. This helped to leverage multiple instructional methods. We carefully planned the video clips and they have professional touch. We wrote scripts on tie-dye processes that guided the production of the videos for the study. The experts in educational technology validated the video clips. We used Adobe Premiere Software to correct, edit and produced the final version of the video for the experiment.

**Experimental procedure:** At the onset of the experiment, their teachers (research assistants) gave the subjects in both the treatment and control groups the VAAT and VAII as a pretest. Thereafter, the regular teachers began the experiment adhering strictly to the lesson procedure developed for the groups. We randomly assigned the two groups versions of the instructional media (video clips and conventional media) for the experiment. The teachers guided the students on how to tie-dye processes. They conducted the experiment during the normal lesson periods in accordance with the school's timetables. By the end of the experiment which lasted for three weeks, the posttest which had items of the pretest (VAAT and VAII) reshuffled was administered to the subjects. We collected the answer sheets for VAAT and VAII and used the data provided for analysis.

**Method of data analysis:** We used Mean, standard deviation and Analysis of Covariance (ANCOVA) to analyze the data using the Statistical Package for the Social Sciences (SPSS) Version 25.

## RESULTS

We performed a hierarchical Analysis of Covariance (ANCOVA) on pretest and post-test obtained from the SS-II students to evaluate the treatment effect of the experiment. The independent variable was the group status of control vs. treatment. The covariate was pretest scores obtained from the students before the experiment. We conducted preliminary checks to ensure that there was no violation of the assumptions of normality, linearity,

Table 1: Mean ( $\bar{X}$ ) and Standard Deviation (SD) achievement scores of students taught using video clips and conventional media

Groups	N	Pre-test		Post-test		Adjusted post-test ( $\bar{X}$ )
		$\bar{X}_1$	SD <sub>1</sub>	$\bar{X}_2$	SD <sub>2</sub>	
Video clips	42	9.69	1.12	87.95	4.08	87.82
Conventional	38	8.82	1.35	49.58	3.29	49.72

Table 2: Analysis of covariance of students tie-dyes achievement scores by media

Sources	Hierarchical method					
	Sum of squares	df	Mean square	F	Sig.	Effect size
Post-test covariates (Pretest)	3721.587	1	3721.587	266.822	0.000	
Main effects (media)	25666.379	1	25666.379	1840.169	0.000	0.960
Model	29387.966	2	14693.983	1053.495	0.000	
Residual	1073.984	77	13.948			
Total	30461.950	79	385.594			

Table 3: Mean ( $\bar{X}$ ) and Standard Deviation (SD) interest scores of students taught using video clips and conventional media

Groups	N	Pre-test		Post-test		Adjusted post-test ( $\bar{X}$ )
		$\bar{X}_1$	SD <sub>1</sub>	$\bar{X}_2$	SD <sub>2</sub>	
Video clips	42	1.43	0.06	3.68	0.09	3.68
Conventional	38	1.45	0.04	1.55	0.05	1.55

Table 4: Analysis of covariance of students tie-dyes achievement scores by media

Sources	Hierarchical method					
	Sum of squares	df	Mean square	F	Sig.	Effect size
Posttest covariates (Pre-test)	10.249	1	10.249	1678.342	0.000	-
Main effects (media)	80.242	1	80.242	13140.798	0.000	0.995
Model	90.491	2	45.246	7409.570	0.000	-
Residual	0.470	77	0.006			
Total	90.961	79	1.151			

homogeneity of variances, homogeneity of regression slopes and reliable measurement of the covariate. We presented the results in Table 1-4.

The data on video clips instructional media and conventional media in Table 1 revealed that the posttest mean score for students taught using video clips instructional media was (M = 87.95, SD = 4.08) and adjusted mean of 87.82 while that of students taught with conventional media was (M = 49.58, SD = 3.29) and adjusted mean of 49.72. Students taught tie-dye using video clips instructional media, therefore, performed better than students taught with conventional media.

Data in Table 2 showed a statistical significant main effect for instructional media  $F_{(1,77)} = 1840.169$ ,  $p = 0.000$ , partial  $\eta^2 = 0.960$ . The null hypothesis, therefore, was rejected indicating that there was a significant difference in the mean achievement scores of students taught using video clips and those taught using conventional media. The difference was in favour of video clips. Video clips, therefore, were superior to conventional instructional media in tie-dye. The actual difference in mean scores between the groups was substantial. The effect size, calculated using eta squared was 0.960.

The data on video clips instructional media and conventional media in Table 3 revealed that the posttest mean score for students taught using video clips

instructional media was (M = 3.68, SD = 0.09) and adjusted mean of 3.68 while that of students taught with conventional media was (M = 1.55, SD = 0.05) and adjusted mean of 1.55. Students taught tie-dye using video clips instructional media, therefore had higher interest mean scores than students taught with conventional media.

Data in Table 4 showed a statistical significant main effect for instructional media  $F_{(1,77)} = 13140.798$ ,  $p = 0.000$ , partial  $\eta^2 = .995$ . The null hypothesis, therefore, was rejected indicating that there was a significant difference in the mean interest scores of students taught using video clips and those taught using conventional media. The difference was in favour of video clips. Students taught using video clips instructional media, therefore had higher interest scores than those taught with conventional media. The actual difference in mean scores between the groups was substantial. The effect size, calculated using eta squared was 0.995.

## DISCUSSION

The results presented on student's achievement mean scores in tie-dye revealed that the students taught tie-dye using video clips had higher achievement mean scores than the students taught with conventional media. This

finding is in-line with the finding by Hsin and Cigas<sup>[10]</sup> who revealed that video clips are a highly effective educational tool. Moreover, the finding confirms Thomson *et al.*<sup>[11]</sup> and Guo *et al.*<sup>[12]</sup> who asserted that video clips increase student's engagement towards the learning materials. The findings also support and confirmed the finding by Irene<sup>[14]</sup> who revealed that pupils who taught using video instruction had a higher achievement mean scores in science than those with traditional method in the effect of video instruction utilization on standard two pupils science achievement in Dagoretti district, Nairobi county in Kenya the summary of Analysis of Covariance (ANCOVA) for the test of significant difference between the achievement mean scores of students taught tie-dye using video clips and those taught with conventional media revealed a statistically significant difference between the achievement mean scores of students taught tie-dye using video clips and those taught with conventional media. This finding is in conformity with the finding by Ebied *et al.*<sup>[15]</sup> who found that significant difference in the achievement mean scores of students in the experimental group and the control group in their study on effectiveness of using YouTube in enhancing the learning of computer in education skills in Najran University in Najran, Saudi Arabia. The finding also supports the finding by Orhan who revealed that there was a statistically significant difference between posttest achievement mean scores of the experimental and control group with the experimental scoring higher in effect of multimedia learning material on student's academic achievement and attitudes towards science courses.

The results presented on student's interest mean scores in tie-dye revealed that the students taught tie-dye using video clips obtained higher interest mean scores than those taught with conventional media. The finding confirms the finding by Martinez<sup>[17]</sup> who revealed that activity web-based learning could be of higher interest to students than the conventional media of instruction. Furthermore, the finding by Kosterelioglu<sup>[16]</sup> revealed that the learning environment enriched with video clips have positive effects on arousing student's interest.

### CONCLUSION

The summary of Analysis of Covariance (ANCOVA) for the test of significant difference between the interest mean scores of students taught tie-dye using video clips and those taught with conventional media revealed there was a statistically significant difference between the interest mean scores of students taught tie-dye using video clips and those taught with conventional media. This finding is in agreement with the finding by Khalid and Muhammad<sup>[13]</sup> who revealed that there was a significant

difference in the mean interest scores of students taught literature-using YouTube in Al-Majma'a, Saudi Arabia.

### IMPLICATIONS

The findings of this study have implications for visual arts education particularly in teaching tie-dye in secondary schools. The implications of this study border on the use of more virile instructional media for teaching tie-dye. In addition, the findings of this study have implications for curriculum review. With these findings on the efficacy of video clips in facilitating designing and tie-dye instruction among senior secondary students, it has become obvious that the current instructional media recommended by the Ministry of Education are inadequate to meet the needs of the students.

### RECOMMENDATIONS

In view of the fact that the video clips were more effective in enhancing student's achievement in tie-dye, we, therefore, recommended that the Ministries of Education should ensure that the curriculum planners incorporate video clips in the instructional materials for students in secondary schools.

### REFERENCES

01. Solomon, G. and A. Ezra, 2015. Tie-dye (Adire) among the Jukun people Mgbakoigba. *J. Afr. Stud.*, 4: 1-13.
02. Stothers, J.B. and N.A. Edward, 2018. Dye: Encyclopaedia Britannica. Encyclopædia Britannica, Inc., Chicago, Illinois.
03. Asmah, A.E., V. Okpattah and S.T. Daitey, 2016. The innovative wet-dyeing batik T-shirt technique. *Int. J. Acad. Res. Reflection*, Vol. 4,
04. Versova, S., 2017. Japanese Shibori tie & dye workshop. Njuta Technologies Pvt. Ltd., India.
05. Makinde, D.O., M.O. Fajuyigbe and O.J. Ajiboye, 2015. Nigerian textile industry: A tool for actualizing economic stability and national development. *Eur. J. Bus. Social Sci.*, 4: 331-344.
06. Asmah, A.E., 2004. A manual on batik and tie-dye for teachers. Ph.D. Thesis, Federal University of Technology Yola, Yola, Nigeria.
07. Oparinde, S.S., 2012. Batik as a cultural identity of the Yoruba: Hand colouring techniques and applications, possibility of adaptations. *Res. World*, 3: 31-41.
08. Aggarwal, J.C., 2007. Essentials of Educational Technology: Innovation in Teaching-Learning. 2nd Edn., Vikas Publishing House, New Delhi, India, Pages: 504.

09. Berk, R.A., 2009. Multimedia teaching with video clips: TV movies You Tube and mtvU in the college classroom. *Int. J. Technol. Teach. Learn.*, 5: 1-21.
10. Hsin, W.J. and J. Cigas, 2013. Short videos improve student learning in online education. *J. Comput. Sci. Coll.*, 28: 253-259.
11. Thomson, A., R. Bridgstock and C. Willems, 2014. Teachers flipping out beyond the online lecture: Maximising the educational potential of video. *J. Learn. Des.*, 7: 67-78.
12. Guo, P.J., J. Kim and R. Rubin, 2014. How video production affects student engagement: An empirical study of Mooc videos. *Proceedings of the 1st ACM Conference on Learning@ Scale*, March 04-05, 2014, ACM, New York, USA., ISBN: 978-1-4503-2669-8, pp: 41-50.
13. Khalid, A.Z. and K. Muhammad, 2012. The use of YouTube in teaching English literature: The case of Al-Majma'ah community college, Al-Majma'ah University (case study). *Int. J. Linguistics*, 4: 525-551.
14. Irene, C., 2015. Effect of video programmes utilization on standard two pupils science achievement in Dagoretti District, Nairobi county. Masters Thesis, University of Nairobi, Kenya.
15. Ebied, M.M.A., S.A.A.S. Kahouf and S.A. Abdel Rahman, 2016. Effectiveness of using YouTube in enhance the learning of computer in education skills in Najran university. *Int. Interdiscip. J. Educ.*, 1: 1-7.
16. Kosterelioglu, I., 2016. Student views on learning environments enriched by video clips. *Universal J. Educ. Res.*, 4: 359-369.
17. Martinez, A., 2012. Using JITT in a database course. *Proceedings of the 43rd ACM Technical Symposium on Computer Science Education*, February 2012, ACM, North Carolina, USA., pp: 367-372.
18. Darling-Hammond, L., L. Flook, C. Cook-Harvey, B. Barron and D. Osher, 2020. Implications for educational practice of the science of learning and development. *Applied Dev. Sci.*, 24: 97-140.
19. Yusuf, M.O. and A.O. Afolabi, 2010. Effects of Computer Assisted Instruction (CAI) on secondary school students performance in Biology. *Turk. Online J. Educ. Technol. TOJET.*, 9 : 62-69.
20. Oladejo, M.A., G.R. Olosunde, A.O. Ojebisi and O.M. Isola, 2011. Instructional materials and students' academic achievement in physics: Some policy implications. *Eur. J. Hum. Social Sci.*, 2: 112-126.
21. Aroh, D.C., 2006. Effects of videotaped instruction on secondary school students achievement and interest in mathematics. M.Ed. Thesis, University of Nigeria, Nsukka, Nigeria.
22. Ogbu, J.E., 2008. Effects of interaction patterns on students' achievement and interest in basic electricity. Ph.D. Thesis, University of Nigeria, Nsukka, Nigeria.
23. Okeke, J.N., 2013. Effect of the project-based method on students achievement in Government curriculum in senior secondary schools in Nsukka Education Zone. M.Ed. Thesis, University of Nigeria, Nsukka, Nigeria.
24. Usulor, B.E., 2012. Effect of cooperative learning instructional strategy on junior secondary school students' achievement in social studies. *Niger. J. Social Stud.*, 15: 225-274.
25. Isola, B.A., 2011. Vocational Orientation: How to Achieve your Goals. Oyinlola Press Ltd, Ibadan, Nigeria,.
26. Agina-Obu, T.N., 2005. The Relevance of Instructional Materials in Teaching and Learning. In: *Theories Are Practice of Teaching*, Robert-Okah, I. and K.C. Uzoeshi (Eds.), Harey Publication, Port Harcourt, Nigeria, pp: 9-12.
27. Ojebisi, R.O., 2011. Approaches to Effective Teaching in Schools. Allyn & Bacon, Boston, Massachusetts,.
28. Ngwoke, D.U. and U. Eze, 2010. School Leaving Theories and Application. Immaculate Publication Limited, Enugu, Nigeria,.