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## **Effects of Photography on Acquisition of Sculpture Skills among Junior Secondary School Students in Osun State, Nigeria** (Pp. 572-578)

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### **Abstract**

*The study investigated the effects of photography on acquisition of sculpture skills among Junior Secondary School Students in Osun State. Forty students were randomly selected from two schools. The two schools were purposefully selected from fifty secondary schools in Ife Central Local Government Council Area of Osun State based on the availability of Fine Arts Studio. Twenty students each were randomly selected into experimental and control groups. The experimental group was taught using photographic series while control group was taught using conventional method. The analysis of the data when subjected to t-test; shows that the t-table (1.697) is greater than t calculated (0.837) at the pre-test level and that the t-table*

*(1.697) is greater than t calculated (0.8224 at the post-test level. The study concluded that there is significant difference between the academic performance of the subjects taught sculpture with photographic series and those taught without photographic series. The results also showed that students taught sculpture with photographic series had better retention ability than those students taught without photographic series.*

### **Introduction**

The foundational history of the use of photography could be traced to 1950's when the photo type block for copying line subjects, engraving manuscripts and photographic reproduction into books was invented. Ogedengbe (2002) reports that colour photo prints can be a source of help to students in Junior Secondary Schools to develop the ability to compose effectively and increase the performance level in English Language. Rheinhold Thiele's (2000) supports the adoption of photograph unto teaching and learning. She was a press photographer who made photo prints of six hundred and eleven (611) subjects of the Natal Campaign for the Navy and the Army. She also covered the Russo-Japanese war and the Boer war. And many of the documented photographs that were left over were later adopted for educational purpose with more research works into the filed of photography, the scope and uses of photography were extended into medicine, archeology, science, sport, agriculture, art and education. Learners' academic performances have been increased through the use of photography. Bower and Spaulding (2000) in a research study on simple reading materials concluded that a sequence of picture can be effectively used for communicating new idea and to increase learners' performance if the pictures are used together with verbal face to face explanation.

Fonsesca and Karle (1960) explained that recognizable and familiar objects presented in a sequence of photo prints enhance comprehension and better performance. Travers (2003) shows that photographic prints can be used to improve the performance of a lawn tennis player. According to Hudson and Hector (1963) photography and pictorial illustration accompanied with verbal explanation have increased the level of performance of cocoa farmer in Ghana. Sofowora (1994) contributes that the comprehension of a process involving series of actions is possible if photographs are used.

Chaplain (1960) working on a science education research project contributes that instruction when given largely with numerous sequence of photo prints helps to convey adequate scientific information and instruction. Arundale

(2005) reports from his study that learners were able to retain a great part of the lesson content when oral teaching are linked with a sequence of photographs. It also shows that the students in the experimental group performed better and were able to recall the various experiences they acquired in their projects than those in the control group. Spaulding (1955) was of the opinion that colour photo prints are real life situation that help the retention of what has been learnt. Adeosun (1986) explained that students that were exposed to pictures were able to retain and recall a greater part of the lesson content than those that were taught without the use of picture. Franden (1961) showed that a sequence of pictures and pictorial illustration make learning real, more meaningful and reinforces the learning materials for easy assimilation and retention. John and Litcher (2000) in their experiment concluded that four months after exposing the students to multi-racial pictures the attitude of the students changed towards other races. However, the teaching of Fine Arts (Sculpture) is facing a lot of problems in Osun State Secondary Schools. Among the problems are poor methods of teaching, lack of relevant instructional materials; negative attitude of the parents and the students towards the subject and shortage of qualified teachers. This study therefore focused on how photographic series can be used to reduce some of the problems facing the subject in Osun state Secondary Schools. The study also examined the extent to which photography will influence student attitude towards sculpture and how it would improve the retentive ability of students in the subjects.

### **Population and Sample**

The study population consists of all Junior Secondary Schools in Osun State. Two secondary schools were purposefully selected from 50 secondary schools in Ife Central Local Government Council Area of Osun State based on the availability of Fine Arts Studio. 40 students were randomly selected from the two schools and were stratified into 20 males and 20 females.

### **Methodology**

The study adopted pre test, post test control design. The instrument used was Sculpture Achievement Test (SAT). This instrument consists of 10 test items. The instrument was developed based on the JSS· Textile Design Curriculum· A pilot test was carried out on 10 students who were not part of the study. The instrument was validated based on the suggestion of the experts in the department of Educational Foundation and Counselling. This same instrument was used as pre, post and retention tests. The study lasted 7

weeks, first week was used for pre test, second, third and fourth week were used for teaching, (Introduction to Sculpture, types of Sculpture, Techniques and administration of post - test of sculpture were taught. Retention test was administered at the seventh week. Data gathered were analysis using t-test statistical analysis. This is in line with Borg (2005) that retention test must not be administered too close to the post-test or too far from the pre-test.

### **Hypotheses**

The following hypotheses are generated for the study:

- (a) There is no significant difference between the academic performance of students exposed to photographic series and those not exposed to photographic series.
- (b) There is no significant difference between academic performance of male and female taught. Sculpture with photographic series and those who were not with photographic series and those who were not with photographic series.
- (c) There is no significant difference between retention level of learners taught sculpture techniques with photographic series and those taught without photographic series.

### **Results and Discussions**

Hypothesis one states that there is no significant difference between academic performance of students exposed to photographic series and those that are not exposed to photographic series. The results of the analysis of the data collected in respect of this hypothesis are presented in Table 1.

Hypothesis 1 states that there is no significant difference between the academic performance of students taught sculpture with photographs and those that are taught without photographic series.

From table 1, the mean scores of experimental and control groups before treatment were 5.25 and 5.80 with standard deviations of 1.30 and 1.33 respectively. A t-test comparison of these scores yielded a t-value of 0.8307 which is significant at 0.05 level ( $DF=39$ ,  $t_{cal} 0.8307 < t_{tab} = 1.697$ ). This suggests that Experimental and control groups were significantly different in their levels of performance before treatment. However, the post-test performance of Experimental and control groups was subjected to t-test analysis. The subjects had mean scores of 6.85 and 7.15 with standard deviations of 1.24 and 1.06 respectively. A t-test of these scores yielded a t-

value of 0.8224 and t-tab of 1.697 at the post-test level. This result shows that there is significant difference in the performances of the two groups and that students taught sculpture techniques with photographic series perform significantly better than those taught sculpture without the use of photographic series.

Hypothesis two states that there is no significant difference between the male and female students taught sculpture techniques with photographic series.

Table 2 shows the comparison of the performance of male and female students taught sculpture techniques with photographic series at both the pre and post-test levels. The mean scores of the female group at both test levels are greater than that of male. This shows that female group performs statistically better than their male counterparts before the use of photographic series and after the use of photographic series. When the mean scores of both groups were subjected to t-test analysis; t-table was greater than t-cal at both levels (i.e at pre test level ttab 1.833 > tcal 0.6763 and post-level ttab 1.833 > tcal 0.2100).

This analysis shows that there is significant different between the academic performance of male and female students taught sculpture technique with photographic series. The implication of this result is that the female students performed – significantly better than their female counterparts. The female students responded positively to photographic series in the process of teaching.

Hypothesis 3: It was stated in hypothesis three that there was no significant difference in the retention level of students taught sculpture techniques with photographic series and those taught without the use of photographic series.

In order to re-establish the fact that students exposed to photographic series would have a better performance than those taught without the use of photographic series. The mean scores of both experimental and control groups were subjected to t-test analysis after 2 weeks (Borg 2005). The results of the analysis revealed that students taught with photographic series were able to retain better than those students taught without photographic series (ttab 1.729 < tcal 3.9829). (See table 3) This hypothesis was rejected.

The implication is that an effective use of photographic series will enhance retention and good performance.

### **Summary and Conclusion**

This study has investigated the effects of photography on acquisition of sculpture skills among Junior Secondary School Students in Osun State. The findings of the research shows that students taught sculpture with photographic series performed significantly better than those who were not taught with photographic series. The implication is that photographic series enhance comprehension, recall and retention. This research reaffirms the fact that students learn rapidly and more effectively when oral teaching is linked with something they can feel, handle, touch and see.

The study concluded that teachers should adopt and adapt the use of photographs in teaching and learning in Osun State. Government should encourage and motivate teachers toward the use of photographs in teaching. In addition, the State Government should provide each secondary school with photographers.

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**Table 1:** Comparison of the academic performance of students exposed to photographic series and those who were not

Tests	Group	N	$\bar{X}$	S·D	D·F	tcal	ttab
Pre-test	Experimental	20	5.25	1.30	39	0.8307	1.697
		20	5.80	1.33	39		
Pre-test	Control						
Post-test	Experimental	20	6.85	1.24	39	0.8224	1.697
		20	7.15	1.06	39		
Post-test	Control						

**Table 2:** A comparison of the academic performance of the male and female students exposed to photographic series.

Tests	Group	N	$\bar{X}$	S·D	D·F	tcal	ttab
Pre-test	Female Experimental	10	6.00	0.66	9	0.6763	1.833
Post-test	Male (Control)	10	5.6	1.75	9		
Post-test	Female (Experimental)	10	7.2	1.25	9	0.2100	1.833
Post-test	Male (Control)	10	7.1	0.84	9		

**Table 3:** Comparison of the retention levels of the students taught sculpture techniques with photographic series and those taught without the use of photographic series.

Tests	Group	N	$\bar{X}$	S·D	D·F	t-cal	ttab
Pre-test	Experimental	20	5.25	1.3	19	3.98 29	1.729
Post-test	Control	20	6.85	1.24	19		