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**Influence of Teachers' Knowledge of Instructional Media on Teachers' Performance in  
Secondary Schools in Uyo Senatorial District.**

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**ABSTRACT**

*The study sought to examine the influence teachers' knowledge of instructional media on teachers' performance in secondary schools in Uyo Senatorial District. Two objective and hypothesis were formulated to guide the study. The study adopted a survey design. The population of the study included all the male and female teachers and students in 96 secondary schools in the 6 local Education Committees (LEC) of Uyo Senatorial district of Awa Ibom state. The researcher developed an instrument tagged "Media Utilization Questionnaire (IMUQ) and Questionnaire on Students' Perception of Teachers' Performance (QSPTP)" for data collection. To ensure that the instrument is reliable, split-half reliability estimate using 0.86 and 0.73 reliability coefficient was run on the questionnaire. The hypotheses were analysed using t-test analysis. From the result of the findings, it was seen that there is significant effect of teachers' knowledge of instructional media design strategies on teachers' performance. It was also seen that there is significant effect of teachers' knowledge of instructional media design strategies on teachers' performance. It was thereby concluded that Teachers' has adequate knowledge of instructional media design strategies and instructional media production. One of the recommendations was that Audio-visual units should be established in the secondary schools to help the teachers design and produce instructional media for use during every lesson.*

**KEYWORDS: Teachers' knowledge, instructional media, teachers' performance, secondary schools, media design strategies, Uyo Senatorial District**

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**Introduction**

In all nations the world over, the aim of education has always been to train youths to acquire secular knowledge to fit into all fields of human endeavour. Within the Nigerian context, Adaralegbe (1998) states that the genesis and foundation of education in Nigeria indicate that education was meant to train the youths to acquire secular knowledge as teachers in their local schools, as clerks for the local courts and as interpreters in the churches. This includes the acquisition of relevant skills, values, right attitudes and modified behaviours in order to make a meaningful living in the society. The Nigerian nation came up therefore with a laudable policy regarding its education. Notable among its aims and objectives is the nation's desire to acquire appropriate skills, ability and competencies both mentally and physically to equip the individuals to live in and make useful contributions to the development of the society, training of the mind to understand the world around and the inculcation of national consciousness and unity.

In an effort to make the teaching-learning process more interesting and meaningful, the Federal Government of Nigeria in her National Policy on Education (2004, Section 6) emphasized the enviable role of the field of educational technology, thus to enhance teaching and improve the competence of teachers and to make learning more meaningful for students. The teaching-learning process involves the use of instructional media to initiate and transfer encoded message and information to learners who decode them by analyzing and interpreting them (Ibe-Bassey, 1993). The teacher needs instructional materials to ensure that students' needs are adequately provided for. There is an urgent need to integrate instructional media into the secondary school system where a variety of these media would be an asset in supporting and improving teaching and learning. There is need for alternative sources of information as more and more teachers and students need to turn to them to satisfy their teaching-learning needs. The teacher needs instructional media to enable him analyze what the educational programme is supposed to accomplish (Prostano and Prostano, 1997). According to them, the task of diagnosing students' needs on a continuing basis and of prescribing the experiences required for the students to perform to the maximum would be difficult and almost impossible without adequate instructional media.

### **Statement of the Problem**

The spiraling cost of funding education today has created lots of problems in the educational system. This has further been compounded by the poor budgetary allocation to this sector. This situation makes it practically difficult for the classroom teachers to provide for instructional media which are needed for teaching and learning. However, researchers have shown that instructional media can enhance effective teaching and learning. Sadly enough and with nostalgic reference to developing countries, most classroom suffer from paucity or dearth of ready-made sophisticated instructional materials. This, no doubt, has some adverse consequences on the teaching and learning of most subjects in the secondary school curriculum including Government. Consequently, the fundamental problem of this study is to determine the effect of teacher's knowledge of instructional media design strategies and production on teacher's performance as perceived by the students in secondary schools in Uyo Senatorial District of Akwa Ibom State.

### **Objective of the Study**

1. To determine the effect of teachers' knowledge of design strategies of instructional media on teachers' performance
2. To assess the effect of teachers' knowledge of production of instructional media on teachers' performance.

### **Research Question**

The following are the research questions of this study

1. Can teachers' knowledge of instructional media design strategies affect teachers' performance?
2. Will teachers' knowledge of instructional media selection affect teachers' performance?

## Research Hypothesis

The following are the hypothesis of this study:

1. There is no significant effect of teachers' knowledge of instructional media design strategies on teachers' performance.
2. There is no significant effect of teachers' knowledge of instructional media production on teachers' performance.

## Literature Review

The utilization of instructional media in teaching-learning situations is based on certain conceptual framework of this study. Effective use of instructional media has been found to increase the rate of learning of students and saves teachers' time as instructional delivery may be accomplished with ease. There are abundant research evidences in the literature to support this statement. Schramm (1979) illustrated that all instructional media can instruct and learners can learn from virtually all media.

## Instructional Media Design Strategies and Teachers' Performance

Within the Context of instruction, the decision of what to design and how to design is uniquely designers' and teachers' idea or insight. Akpan (1997) comments that the act of design is the first stage of instructional media utilization. Bassey (1999) sees instructional media design as a unique tool which the designer or teacher employed acquired skills, knowledge or wealth of experience to bring the world of imagination into the world of reality. Hence, adequate instructional media design offers a significant avenue to efficient teaching to efficient teaching performance in the classroom. Okon (1998) asserts that within the frameworks of effective instructional media design, planning and development of instructional media serve as sacred avenues through which teachers or designers can vividly employ. The two elements serve as brainchildren to effective instructional media design.

In conventional curriculum planning, decisions are most often made in intuitive fashion and may be based on ambiguous purposes. Subject content is the basis for planning, and only casual attention are given to other details. It is now recognized that the instructional processes is complex and that attention must be given to many interrelated factors if outcomes are to be successful (Ekpo, 1993). The success of learning outcome is based upon adequate pre-planning and planning of instructional media design. Ibok (1994) adds that the term instructional development applies to the broad process of design of an instructional programme – whether a single module, a complete unit or a total course-using an objective, or systematic procedure. Ibok (1994) further identifies three questions based on this fact. Such questions like:

- (1) What must students learn? (The objectives)
- (2) What procedures and resources are required to accomplish the learning? (The teaching and learning strategies)
- (3) How will you know when the required learning has taken place? (The evaluation)

These three elements – objectives, strategies and evaluation form the framework of instructional development procedures. Ibok (1994) asserts that taking all these together, we can develop an instructional designing plan which consists of these interrelated components.

- Choose topic to be treated
- State general purposes to be served by the topic
- Enumerate the important characteristics of the student group for which the instruction will be designed.
- Indicate the subject content that will lead to the objectives.
- Specify the learning objectives to be achieved as related to the content and purposes.
- Develop pretests to determine each student's background and present level of competence with the topic.
- Select teaching/learning activities and instructional resources that will treat the subject content to accomplish the objectives.
- Coordinate necessary support services, such as budget, personnel, facilities, equipment and schedules to carry out the instructional plan.
- Evaluate student learning in terms of the accomplishment of objectives, with a view to revising and re-evaluating any phases of the plan that need improvement.

### **Review of Instructional Media Design Strategies and Production**

Planning is the key to designing of instructional media. The instructional system design makes the specification of instructional media to be produced as an important part of design efforts (Akibuiri, 2002). Here emphasis is on verification which deals with internal and external validity of such products and the maximum utility of such products in achieving predestined objectives. In this perspective, however, design and production of instructional media form an integral part of the teaching learning process. Hence the teacher designed and produced instructional media for specific purposes.

Certain principles are followed in the process of designing and producing all forms of instructional media. The designer or teacher is to be sure that a suitable instruction will include the development and planning of instructional specifications, methodology and strategies for the use and evaluation of the materials. The materials should aim at achieving the desired, substantive, managerial and appraising instructional functions (Ibe Bassey, 1996). Imogie (2003) stated that before embarking on any form of media design and production, it is necessary to assess the relative worth of such materials. Imogie (2003) listed some criteria as follows:

- The materials should seek to validly illustrate and provide messages to specific lesson,
- They should be simple, readily, replicable and durable,
- They should be cheap enough to ensure meaningful cost reduction

- The design of instructional media involves the teacher or planner knowing the ability and level of the learners, the instructional objectives and learning goals of the learners, the environment and cultural variations of the schools as well as the adaptability of the learners to instructional procedures.

Such design procedure will not be complete without the evaluation of the prototype so produced.

Akubuiro (2002) had given guidelines for designing instructional media and the designer has to perform some design functions which include:

- Identification of the problem
- Analysis of the target audience
- Stating the behavioural objectives
- Analysis of the concept.

Instructional media are designed for specific purposes. Designers and teachers should therefore adopt a standard basic approach I planning and designing instructional media. Ellington (1993) has given the guidelines on the procedures as thus:

- The designer should identify the specific instructional role that the material should play. This will involve taking a detailed look at the learning objectives that the designer is trying to achieve. The specific area overall context of the lesson and the instructional strategy to be adopted,
- Formulate a basic plan for the materials, identify the roles the instructional media are intended to play. Decision is taken on the type of instructional material the designer intends to use, then draw up the outline and classify the designers' thinking,
- Write out the materials. This embodies displaying the creative work, filling and writing out the basic ideas and concept and finalizing the lay out depending on whether such material will be used for individualized instruction or integrated set of resources for exercises, stimulation or participative instruction. The systematic approach is therefore used to:
  - Match content to the design objectives and target population e.g what will the user achieve after using the materials.
  - Adopt the writing style that is appropriate to the type of materials and to the ability of the users.

It becomes imperative that secondary school teachers must ensure that instructional media are designed systematically and structured in such a way that meaningful teaching and learning are facilitated. Lessons must be designed to make them easy for comprehension by the learners. Designing involves embodiment of thinking and creating patterns, systems, models, etc to be used in solving particular educational problems. It involves taking decisions from alternatives and adopting better means and alternatives of solving the problem before designing such materials or models.

Ogunmilade (1994) opined that some specific tactics which are detailed events of instruction must be planned in order to achieve specific instructional goals. It is required that the teacher should design topic and then design instructional media for the topic or at least modify the existing ones if the instructional system must be reasonable. In a seminar titled ‘‘The Needs for Adequate Design and Production of Instructional Media in Secondary Schools in River State’’ conducted by the Rivers State Ministry of Education, Nnadozie (2004) reported that appropriate instructional media design and production must follow a systematic procedure, careful planning and implementing what was already planned bearing in mind the state of the lesson. Hence the instructional media and produced by the teachers must move the students in the direction of the stated objectives.

Designing and producing instructional media are based on subject content and casual attention is given to other variables and details. It is observed that the instructional process is complex attention and must be given to many interrelated factors if qualitative outcome must be achieved successfully. Pertinent questions must be answered:

- What must students learn as indicated by the instructional objectives
- What resources and procedures are required to accomplish the learning (teaching and learning strategies)
- How will you know when the required learning has taken place (evaluation)

These three elements – objectives, strategies and evaluation form the frameworks of instructional development procedures and instructional media development and production.

Instructional media design and production consist of the under listed interrelated components:

- Choose topics to be related
- State the general purpose to be served by the materials
- Analyse the audience
- Indicate the subject content
- Specify the learning objectives
- Develop – pretest to determine each student’s background and present levels of competence with the topic
- Produce the materials
- Evaluate the prototype

Indeed, what must be learnt should be stipulated and should also be achieved during a given learning process so that one can predict the method of evaluation (Etim, 1998). The material designed and produced should be able to explain itself clearly on specific subject matter so that in the absence of the teacher, the student can learn if they have access to the instructional media.

For effective design and production, examination of the systematic planning procedure is necessary to provide a framework within which the selection of the instructional media takes place. The design process requires a high degree of creative intellectual activity which the secondary school teachers must exercise to ensure the production of a meaningful and purposeful instructional media for effective and efficient teaching and learning, to guarantee quality output from our secondary school system.

## **Methods**

### **Research Design**

For the purpose of the study, survey-research-design was used.

### **Area of the Study**

The area for the study was Uyo Senatorial district which covers Uyo, Nsit Ibom, Etinan, Uruan, Nsit Atai, Ibesikpo Asutan, Itu, Ibiono, and Nsit Ubium, inhabited by Ibibio speaking people.

### **Population of the Study**

The population of the study included all the male and female teachers and students in 96 secondary schools in the 6 local Education Committees (LEC) of Uyo Senatorial district of Awa Ibom state. The population of the teachers was estimated at 2,864 representing 1,534 males and 1,330 females. The enrolment figure of Senior Secondary Two (SS2) students in the area at the time of the study (2007/2008 academic session) stood at 32,689 representing 17,962 males and 14,727 females.

### **Sample and Sampling Technique**

The sample consisted of 600 secondary school teachers and 360 SS2 students from 30 selected secondary schools. Stratified random sampling technique was used in the study to categorise the sampled area into 6 strata. The hat-and-draw method was further used to randomly select 5 secondary schools from each strata making a total of 30 schools and 12 SS2 students.

### **Instrumentation**

The instruments for data collection were designed by the researcher. They are: Instructional Media Utilization Questionnaire (IMUQ) and Questionnaire on Students' Perception of Teachers' Performance (QSPTP).

### **Validity of the Instrument**

Face, content and construct validation of the two instruments were ascertained by experts in measurements and evaluation.

### **Reliability of the Research Instrument**

In order to ensure the reliability of the instruments, split-half reliability estimate using 0.86 and 0.73 reliability coefficient was run on the questionnaire.

## Method of Data Analysis

Data generated was analysed using t-test analysis.

## Hypotheses Testing

### Hypothesis One

The null hypothesis states that there is no significant effect of teachers' knowledge of instructional media design strategies on teachers' performance. In order to test the hypothesis, two variables were identified as follows:

- 1) Teachers' knowledge of instructional media design strategies as independent variable
- 2) Teachers' performance as dependent variable.

T-Test analysis was used in comparing the mean scores of the high teachers' knowledge of instructional media design and low teachers' knowledge of instructional media design strategies, in order to produce t-value.

**Table 1: T-test Analysis of the Effect of Teachers' Knowledge of Instructional Media Design strategies on Teachers' Performance**

VARIABLES	N	X	SD	T
High knowledge	477	54.22	10.21	15.23*
Low knowledge	123	39.17	7.80	

**\*Significant at 0.05 level; df = 598; critical value = 1.96**

From Table 1, the obtained t-value was 15.23; the calculated value was tested for significance by comparing it with the critical t-value (1.96) at 0.05 level with 598 degree of freedom. The obtained t-value (15.23) was found greater than the critical t-value (1.96), hence the result was significant. The result signifies high positive influence on the two variables. It means that the higher the teachers' knowledge of instructional media design strategies the higher or more effective the teachers' performance in the classroom and vice versa. The significance of the result caused the null hypothesis to be rejected while the alternative one was accepted. The result therefore means that there is significant effect of teachers' knowledge of instructional media design strategies on teachers' performance.

### Hypothesis Two

The null hypothesis states that there is no significant effect of teachers' knowledge of instructional media production on teachers' performance. In order to test the hypothesis, two variables were identified as follows:

- 3) Teachers' knowledge of instructional media production as independent variable
- 4) Teachers' performance as dependent variable.



T-Test analysis was used in comparing the mean scores of the high teachers' knowledge of instructional media production and low teachers' knowledge of production, in order to produce t-value.

**Table 2: T-test Analysis of the Effect of Teachers' Knowledge of Production of Instructional Media on Teachers' Performance**

VARIABLES	N	X	SD	T
High knowledge	436	56.78	7.31	32.80*
Low knowledge	164	36.12	5.56	

**\*Significant at 0.05 level; df = 598; critical value = 1.96**

Result from Table 2 showed that the obtained t-value was 32.80; the calculated value was tested for significance by comparing it with the critical t-value (1.96) at 0.05 level with 598 degree of freedom. The obtained t-value (32.80) was found greater than the critical t-value (1.96), hence the result was significant. The result signifies high positive influence on the two variables. It means that the higher the teachers' knowledge of instructional media production, the higher or more effective the teachers' performance in the classroom and vice versa. The significance of the result caused the null hypothesis to be rejected while the alternative one was accepted. The result therefore means that there is significant effect of teachers' knowledge of instructional media design strategies on teachers' performance.

### **Discussion of Findings**

The result of the analysis in Table 1 was significant due to the fact that the obtained t-value (15.23) was greater than the critical t-value (1.96) at 0.05 level with 598 degree of freedom. The result is in agreement with the opinion of Eshiet (1996) who stated that instructional media design is a unique tool which the designer or teacher employed acquired skills, knowledge, technique or wealth of experience to bring the world of imagination into the world of reality or creativity. He also affirmed that adequate instructional media design strategies offer a significant avenue to efficient teaching performance in the classroom. Okon (2002) hereby summarises that media personnel and others filling the role of instructional designers can assist teachers or teaching teams to develop effective instructional design plans, decisions and developments for proper production of instructional media.

The analysis in Table 2 revealed that there is significant effect of instructional media production on teachers' performance in the classroom. The result of the data was significant due to the fact that the obtained t-value (1.96) at 0.05 level with 598 degree of freedom. The significance of the result is in agreement with the opinion of Udoette (2001) who states that production par excellence is a practical implementation of what was already planned, decided and developed by the designer or teacher. He also asserted that production of instructional media cannot be done haphazardly, but should follow a careful or systematic procedures bearing in mind the learners' needs, community, cultural setting and environmental influence for effective teaching and learning in the classroom. Ekong (1994) also comments that where instructional media are properly designed and produced, they can serve as another teacher or help the teachers to teach their subjects effectively at all levels of learning.

## **Conclusions**

This study concludes that:

1. Teachers' has adequate knowledge of instructional media design strategies and instructional media production.
2. There is significant effect of teachers' knowledge of instructional media design strategies on teachers' performance.
3. There is significant effect of teachers' knowledge of instructional media production on teachers' performance.

## **Recommendations**

The following recommendations are put forward for adoption:

1. Audio-visual units should be established in the secondary schools to help the teachers design and produce instructional media for use during every lesson.
2. Instructional media should be designed and produced for virtually all lessons in the secondary schools.
3. Secondary school teachers should be caused to attend seminars, workshops and symposia on media design and production to enrich their skills and update their knowledge.

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