

PDF - EFFECTS OF PRACTICAL METHOD ON THE EFFECTIVE TEACHING OF PHYSICS IN SENIOR SECONDARY SCHOOLS. (A CASE STUDY OF OJODU LOCAL GOVERNMENT AREA IN LAGOS STATE) - researchcub.info

ABSTRACT

The aim of this study was to find out the effect of practical method on the effective teaching of physics in senior secondary schools. The study participants were drawn out of 5 secondary schools in both private and government secondary schools in Ojodu Local Government Area of Lagos State. A total of one hundred and ten (110) which comprises of hundred students and ten teachers participated. Data were collected through questionnaire, data collected was analysed through the use of chi-square. From the result, it was shown that practical methods affect the teaching of physics and there is significant difference between practical method of teaching and lecture method. The implications of these finding were discussed and it was therefore recommended that government and other stakeholder in the ministry of education should ensure that school laboratories are well equipped and teacher should use mostly practical method in teaching physics.

TABLE OF CONTENTS

- 1.1 BACKGROUND OF THE STUDY**
- 1.2 STATEMENT OF THE PROBLEM**
- 1.3 THE PURPOSE OF THE STUDY**
- 1.4 SIGNIFICANCE OF THE STUDY**
- 1.5 RESEARCH QUESTIONS**
- 1.6 RESEARCH HYPOTHESIS**
- 1.7 SCOPE OF THE STUDY**

CHAPTER TWO

LITERATURE REVIEW

- 2.1 INTRODUCTION**
- 2.2 CONCEPTUAL FRAMEWORK**
- 2.3 UNDERLYING THEORETICAL FRAMEWORK**

CHAPTER THREE

- 3.1 RESEARCH DESIGN**
- 3.2 POPULATION OF THE STUDY**
- 3.3 SAMPLE AND SAMPLING TECHNIQUES**
- 3.4 RESEARCH INSTRUMENTS**
- 3.5 ADMINISTRATION OF INSTRUMENTS**
- 3.6 VALIDITY AND RELIABILITY OF THE INSTRUMENTS**
- 3.7 PROCEDURE FOR DATA COLLECTION**
- 3.8 METHOD OF DATA ANALYSIS**

CHAPTER FOUR

ANALYSIS OF THE RESULTS AND INTERPRETATIONS

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

- 5.1 SUMMARY**
- 5.2 CONCLUSION**

5.3 RECOMMENDATIONS

CHAPTER ONE

INTRODUCTION

Physics is generally regarded as the nucleus of all technology. This simply means that physics controls all forms of technology. It also affirms that behind every technology, there is physics.

At senior secondary school level, physics is defined as a branch of science that deals with matter, energy, their relationship and their measurements.

The learning of physics is affected by the mathematical background of the learner and the method used by the teacher in teaching concepts (Topics) in physics.

The teaching methods that can be used by teacher in effective teaching of physics in senior secondary schools are: (1) Theoretical method and (2) practical method.

Physics in Nigerian Secondary Schools is taught by a lecture approach alone in 62% of the Secondary Schools there. This is what Tropp (1972) described as a “chalk and talk” teaching approach, from the extensive observation she made while on a trip to Nigeria to study the Secondary School Science programmes in Nigeria. She observed that despite the fact that the West African Examination Council mandated that because of its very empirical nature, physics must be studied by the aid of the laboratory classes, this was not being done. Also, the West African Council on Science Education noted in its 1969 annual report that physics was not being studied or taught with the aid of laboratory activities in Nigerian Secondary Schools. It noted, “our studies indicate that this attitude is widespread in the vast majority of schools in these countries.”

Nigerian Secondary School Students who are taught physics by the “chalk and talk” lecture approach have repeatedly demonstrated poor student motivation and achievement in and from their physics education programme. This is evidenced by the poor results in both the in-school teacher-made physics examinations and in the external West African School Certificate physics examinations conducted by the West African Examinations Council for secondary school students planning to graduate at the end of their five year school programme (Ashby, 1970). Ashby described the number and quality of passes in physics from 1966 - 1969 as “extremely unsatisfactory.” The problem of poor achievement by Nigerian Secondary School Physics Students is widespread and consistent. It is possible that these Physics candidates did poorly in the Council’s physics examination because they were taught this subject by lectures alone rather than by lectures as well as laboratory. Ali (1975) noted, for example, that in 1974, 29% of all the Nigerian Secondary School Students who sat for the West African School Certificate Examination in physics passed this subject. In 1977, the figure of passes in this examination was 28%; even lower than 1974’s figure.

Furthermore, Ali (1975) noted that there are considerable data available which suggest that students, probably, do very poorly in physics because the method of teaching they are exposed to, mostly lecture method, does not enable them to go beyond the lowest hierarchy of learning outcomes in physics, the knowledge or factual recall level. The higher hierarchies of cognitive learning applications, analysis, synthesis and evaluation, following Bloom’s et al (1964) model are not attained by physics students taught by lectures. This is probably because lectures do not provide the students the opportunity to comprehend, apply and analyse physics problems. Hence, they probably do poorly in these higher cognitive hierarchies in their secondary school physics examinations.

BACKGROUND OF THE STUDY

Practical work in senior secondary schools takes the form of laboratory experiment, demonstrations, framework and excursions. Teacher's innovativeness and creativity could also introduce novel modes of practical investigations.

Of late, efforts are being made to utilize virtual laboratory that rely on interplay of the computer and internet. Clearly, every effort should be made to create interest in the students to study physics.

Practical method of teaching as defined by Prince (2004) is a learning method in which students are engaged in the learning process. In practical method of teaching in the words of Davies, Harfield, Heder Panko Kenley (2007) "students actively participate in the learning experience rather than sit as passive learners".

Practical method of teaching is different from traditional/ theoretical method of teaching on two points. First, active role of students and second, collaboration among students.

The word teaching means to impart knowledge or values in an individual.

The word effect means outcome or result. It could be positive or negative.

Practical method involves the use of apparatus in teaching physics i.e. teaching and learning activities is based on 'real life experience' help learners to transform knowledge or information into their personal knowledge which they can apply in different situations. As a matter of fact, practical teaching method "frequently involves the use of manipulative materials".

There is a famous saying of Confucius about the success of the students learning that is given below, "Tell me, and I will forget, show me, and I may remember, involve me, and I will understand".

Practical teaching method help learners to 'construct mental models that allow for higher order performance such as applied problem solving and transfer of information and skills. Also, in a practical class, the teacher is a facilitator, motivator, guide and a coach not a sage on a stage (Stolen, 2009).

STATEMENT OF THE PROBLEM

The major problem of this study is that, physics as a subject is not easy to teach considerable number of students usually opt out of science class due to their poor performance in physics thereby resulting into how enrolment in the number of students studying physics. This research taken on an era where teachers are being asked to do more with less resources both theoretically and practically.

A number of factors have been discovered to influence the teaching of physics through practical method. Developmental process requires input from all sectors in order to enhance the country's technological standing in the run-up to social and industrial transformation. For teachers and students to attain their full potential and to contribute meaningfully in the country's technological and scientific development. The problems to be addressed are lack of well equipped laboratory, lack of laboratory space and limited supply of laboratory equipments.

THE PURPOSE OF THE STUDY

The research is carried out to identify some of the effects of practical method on the effective teaching of physics in senior secondary schools level and some possible strategies for improvement. It is assumed that the outcome of the study will enable the teachers policy makers and education authority to further develop, review the school curriculum of science, physics to be exact and take formal bold step on the corrective measures to improve practical and teaching in senior secondary schools so that they could be relevant in future science and technological development in the country.

SIGNIFICANCE OF THE STUDY

The result of this study is aimed at the provision of basis for effective guidance to modify students understanding, view or perspective toward physics as a science subject. It is believed that hopefully, the outcome or result of this study will improve the problems of teaching and practiclas in senior secondary schools in Nigeria.

RESEARCH QUESTIONS

The following questions were asked in order to guide the study.

Does practical's affect the teaching of physics?

Is there any significance difference between practical and lecture method of teaching physics.

RESEARCH HYPOTHESIS

In the course of this study, the hypothesis below were verified.

There is no significant difference between practical method of teaching physic and method.

There is no significant difference between the academic performance of practical students and method.

SCOPE OF THE STUDY

This study cover 5 selected senior secondary schools in Ojodu Local government Area of Lagos State. Thus the effects of practical of effective teaching of physics in senior secondary schools will be examined. The research was carried out in both private and government schools in Ojodu Local Government Area of Lagos State.

CLASSIFICATION OF VARIABLES AND TERMS

1. **Physics:** The study of matter, energy, their relationship and measurement.
2. **Science:** A body of knowledge which is acquired through careful observation and experiment.
3. **Teaching:** To impact knowledge or social and moral values.
4. **Modify:** To slightly change something especially in order to make it more suitable for a particular purpose.

EFFECTS OF PRACTICAL METHOD ON THE EFFECTIVE TEACHING OF PHYSICS IN SENIOR SECONDARY SCHOOLS. (A CASE STUDY OF OJODU LOCAL GOVERNMENT AREA IN LAGOS STATE)

The complete project material is available and ready for download. All what you need to do is to order for the complete material. The price for the material is NGN 3,000.00.

Make payment via bank transfer to Bank: Guaranteed Trust Bank, Account name: Emi-Aware technology, Account Number: 0424875728

Bank: Zenith Bank, Account name: Emi-Aware technology, Account Number: 1222004869

or visit the website and pay online. For more info: Visit <https://researchcub.info/payment-instruct.html>

After payment send your depositor's name, amount paid, project topic, email address or your phone number (in which instructions will sent to you to download the material) to +234 70 6329 8784 via

text message/ whatsapp or Email address: info@allprojectmaterials.com.

Once payment is confirmed, the material will be sent to you immediately.

It takes 5min to 30min to confirm and send the material to you.

For more project topics and materials visit: <https://researchcub.info/> or For enquiries:

info@allprojectmaterials.com or call/whatsapp: +234 70 6329 8784

Regards!!!