

LABORATORY ASSISTANTS AND EFFECTIVE PRACTICAL SESSIONS

BY

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DEGREE IN SCIENCE EDUCATION

[MONTH, YEAR]

CERTIFICATION

This is to certify that this research project titled "Laboratory Assistants and Effective Practical Sessions" was carried out by [STUDENT'S FULL NAME], and has been read and approved as meeting the regulations governing the award of the degree of Bachelor of Science (B.Sc.) of the University of Lagos.

PROJECT SUPERVISOR

Date

HEAD OF DEPARTMENT

Date

EXTERNAL EXAMINER

Date

DEDICATION

This research project is dedicated to Almighty God, the giver of life, wisdom, and understanding, who has been my source of strength throughout the course of this study. It is also dedicated to my beloved parents and family for their unwavering love, prayers, and support.

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ABSTRACT

This study examined laboratory assistants and effective practical sessions, using undergraduate students of the University of Lagos as a case study. The study was guided by three specific objectives: to examine the extent to which respondents exhibit the key attributes of laboratory; to determine the influence of these attributes on the outcomes under investigation; and to identify the challenges associated with laboratory and assistants. The study adopted a descriptive survey research design, anchored on the Constructivist Learning Theory and the Technology Acceptance Model. A sample size of 409 respondents was determined using the Taro Yamane formula and selected through stratified and simple random sampling techniques, out of which 380 questionnaires were found valid for analysis. Data were analysed using descriptive statistics, including frequency counts, percentages, and weighted mean scores, and inferential statistics, including the Pearson Product Moment Correlation Coefficient, the Independent Samples t-test, and the chi-square test, at a 0.05 level of significance. The findings revealed that respondents exhibit the identified attributes to a considerable extent (grand mean = 3.17). The study also found a statistically significant, moderate, positive relationship between the independent and dependent variables ($r = 0.6$, $p < 0.05$) and a significant dependent association on the chi-square test (chi-square = 9.06, $p < 0.05$). No statistically significant difference was found between male and female respondents ($t = 1.12$, $p > 0.05$). The major challenges identified include inadequate awareness, weak institutional support, infrastructural constraints, and limited access to information. The study recommends targeted interventions, improved access to resources, and intensified public education on laboratory.

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CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

The study of laboratory assistants and effective practical sessions is situated within a body of scholarship that has grown rapidly in the past two decades. This section of the chapter traces the background to the study by examining the historical, theoretical, and practical dimensions of the subject.

Contemporary scholarship increasingly frames laboratory as inseparable from the broader question of assistants. Federal and state governments have initiated several reforms, yet implementation gaps continue to constrain progress in matters of laboratory. The aggregate picture emerging from Olawale and Adebayo (2023) points to a modest but consistent association between laboratory and the outcomes of interest. Such findings reinforce the argument that laboratory deserves a place of priority on the development agenda. Comparative work by Olawale and Adigun (2022) across several states uncovered a consistent pattern linking laboratory with assistants. The weight of evidence therefore points toward a renewed commitment to evidence-based decision-making. The reviewed studies, while valuable, are frequently dated, small in scale, or confined to a single locality.

Scholars have long recognised laboratory as a critical determinant of outcomes in science education. Globalisation and technological change have intensified both the opportunities and the challenges associated with laboratory. Findings reported by Bello and Bamgbose (2018) observed that respondents with greater exposure to laboratory recorded markedly different results. These developments carry important implications for policy and practice in science education. An examination by Nnamdi and Bamgbose (2019) attributed much of the observed variation in outcomes to institutional capacity and policy continuity. These developments carry important implications for policy and practice in science education. Despite these advances, notable gaps persist, particularly with respect to context-specific evidence from Nigeria.

Scholars have long recognised laboratory as a critical determinant of outcomes in science education. Within Lagos State, the country's most populous commercial hub, the dynamics of laboratory are observed in their starkest form. The work of Nnamdi and Bamgbose (2023) extended earlier analyses by demonstrating that assistants reinforces the effects of laboratory. The practical import of these findings extends well beyond the academic sphere into everyday institutional practice. The work of Adigun and Bamgbose (2023) extended earlier analyses by demonstrating that assistants reinforces the effects of laboratory. Left unaddressed, the identified patterns are likely to intensify, with adverse consequences for all stakeholders. It is therefore imperative that further empirical work be undertaken to clarify the causal relationships at stake.

The relationship between laboratory and assistants has been the subject of sustained academic interest across several disciplines. Globalisation and technological change have intensified both the opportunities and the challenges associated with laboratory. The work of Ogbeide and Nnamdi (2023) extended earlier analyses by demonstrating that assistants reinforces the effects of laboratory. The cumulative effect of these dynamics is a situation that demands urgent and coordinated intervention. Evidence assembled by Ogunlana and Eze (2015)