EFFECT OF LABORATORY PRACTICAL WORK ON BIOLOGY PERFORMANCE IN WAEC EXAMINATIONS

BY

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BEING A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF SCIENCE EDUCATION, FACULTY OF EDUCATION, UNIVERSITY OF LAGOS, AKOKA, LAGOS STATE

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR OF SCIENCE (B.Sc.) DEGREE IN SCIENCE EDUCATION

[MONTH, YEAR]

CERTIFICATION

This is to certify that this research project titled "Effect of Laboratory Practical Work on Biology Performance in WAEC Examinations" 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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My profound gratitude goes to Almighty God for His grace, protection, and guidance throughout the duration of my study and the successful completion of this research project. I am deeply grateful to my supervisor, [SUPERVISOR'S NAME], for the patience, guidance, constructive criticism, and invaluable direction provided throughout the course of this research. I also wish to appreciate the Head of Department, the lecturers of the Department of Science Education, and my course mates for their support and friendship. My appreciation also goes to my parents and siblings for their unwavering support, both financial and emotional, throughout my academic journey.

ABSTRACT

This study examined effect of laboratory practical work on biology performance in waec examinations, 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 effect; to determine the influence of these attributes on the outcomes under investigation; and to identify the challenges associated with effect and laboratory. The study adopted a descriptive survey research design, anchored on the Constructivist Learning Theory and the Technology Acceptance Model. A sample size of 408 respondents was determined using the Taro Yamane formula and selected through stratified and simple random sampling techniques, out of which 381 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 = 3.11). The study also found a statistically significant, moderate, positive relationship between the independent and dependent variables ($r = 0.544$, $p < 0.05$) and a significant dependent association on the chi-square test (chi-square = 8.15, $p < 0.05$). 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 effect.

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CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

The study of effect of laboratory practical work on biology performance in waec examinations 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.

effect, when examined in relation to laboratory, reveals complex and often paradoxical dynamics. Federal and state governments have initiated several reforms, yet implementation gaps continue to constrain progress in matters of effect. Longitudinal research by Olawale and Bello (2016) revealed that sustained attention to effect yields appreciable dividends over time. The cumulative effect of these dynamics is a situation that demands urgent and coordinated intervention. Studies conducted within the West African subregion by Bakare and Alade (2018) reached conclusions broadly consistent with the Nigerian evidence. Sustained engagement with the issues raised here is therefore essential if meaningful progress is to be recorded. The reviewed studies, while valuable, are frequently dated, small in scale, or confined to a single locality.

The salience of effect in national discourse has grown steadily, driven by changing social conditions and technological penetration. Economic pressures and resource scarcity frequently determine the pace at which effect advances in practice. Studies conducted within the West African subregion by Chukwu and Kalu (2018) reached conclusions broadly consistent with the Nigerian evidence. The weight of evidence therefore points toward a renewed commitment to evidence-based decision-making. Research by Musa and Eze (2021) using mixed methods provided particularly rich insight into the mechanisms connecting effect and laboratory. The weight of evidence therefore points toward a renewed commitment to evidence-based decision-making. Nevertheless, the existing literature is not without its limitations, and several questions remain unresolved.

Contemporary scholarship increasingly frames effect as inseparable from the broader question of laboratory. Auxiliary variables, including education, income, and location, further condition how effect is experienced across communities. Longitudinal research by Musa and Eze (2016) revealed that sustained attention to effect yields appreciable dividends over time. Accordingly, there is a growing consensus that deliberate policy action is required. Comparative work by Bello and Alade (2022) across several states uncovered a consistent pattern linking effect with laboratory. For practitioners, the practical significance of effect cannot be overstated, given its demonstrable link with laboratory. A recurring weakness in the literature concerns the difficulty of isolating the precise influence of {k0} from confounding factors.

effect continues to command considerable attention among researchers, policymakers, and practitioners in science education. Within Lagos State, the country's most populous commercial hub, the dynamics of effect are observed in their starkest form. Research by Nnamdi and Bamgbose (2021) using mixed methods provided particularly rich insight into the mechanisms connecting effect and laboratory. Left unaddressed, the identified patterns are likely to intensify, with adverse consequences for all stakeholders. Studies by Osinachi and Adigun (2019) largely support the view that effect exerts a measurable influence on outcomes of interest. The