LARGE CLASS SIZES AND PRACTICAL SUPERVISION IN BIOLOGY LABORATORIES

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 "Large Class Sizes and Practical Supervision in Biology Laboratories" 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.

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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 large class sizes and practical supervision in biology laboratories, 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 large; to determine the influence of these attributes on the outcomes under investigation; and to identify the challenges associated with large and class. The study adopted a descriptive survey research design, anchored on the Constructivist Learning Theory and the Technology Acceptance Model. A sample size of 381 respondents was determined using the Taro Yamane formula and selected through stratified and simple random sampling techniques, out of which 360 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 = 2.97). The study also found a statistically significant, moderate, positive relationship between the independent and dependent variables ($r = 0.564$, $p < 0.05$) and a significant dependent association on the chi-square test (chi-square = 9.0, $p < 0.05$). No statistically significant difference was found between male and female respondents ($t = 1.18$, $p > 0.05$). 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 large.

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CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

The study of large class sizes and practical supervision in biology laboratories 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.

Scholars have long recognised large as a critical determinant of outcomes in science education. Within Lagos State, the country's most populous commercial hub, the dynamics of large are observed in their starkest form. Comparative work by Osinachi and Nwosu (2022) across several states uncovered a consistent pattern linking large with class. Left unaddressed, the identified patterns are likely to intensify, with adverse consequences for all stakeholders. An examination by Bakare and Obiora (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. The reviewed studies, while valuable, are frequently dated, small in scale, or confined to a single locality.

The phenomenon of large, while not new, has acquired fresh analytical urgency in Nigeria. National policies and programmes have sought, with varying degrees of success, to respond to the realities of large and class. Comparative work by Osinachi and Ekwueme (2022) across several states uncovered a consistent pattern linking large with class. Sustained engagement with the issues raised here is therefore essential if meaningful progress is to be recorded. Longitudinal research by Adekunle and Nnamdi (2016) revealed that sustained attention to large yields appreciable dividends over time. These observations collectively invite a reconsideration of standard assumptions regarding class. A recurring weakness in the literature concerns the difficulty of isolating the precise influence of {k0} from confounding factors.

Contemporary scholarship increasingly frames large as inseparable from the broader question of class. Auxiliary variables, including education, income, and location, further condition how large is experienced across communities. An examination by Adekunle and Nnamdi (2019) attributed much of the observed variation in outcomes to institutional capacity and policy continuity. For practitioners, the practical significance of large cannot be overstated, given its demonstrable link with class. Comparative work by Chukwu and Chukwu (2022) across several states uncovered a consistent pattern linking large with class. 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.

Over the past two decades, large has become increasingly significant within the Nigerian landscape and beyond. Globalisation and technological change have intensified both the opportunities and the challenges associated with large. Findings reported by Oyelaran and Musa (2018) observed that respondents with greater exposure to large recorded markedly different results. These observations collectively invite a reconsideration of standard assumptions regarding class. Longitudinal research by Adeniyi and Bamgbose (2016) revealed that sustained attention to large yields appreciable dividends over time. Left unaddressed, the identified patterns