

SAFETY AWARENESS IN SCHOOL CHEMISTRY LABORATORIES

BY

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DEGREE IN SCIENCE EDUCATION

[MONTH, YEAR]

CERTIFICATION

This is to certify that this research project titled "Safety Awareness in School Chemistry 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.

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 safety awareness in school chemistry 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 safety; to determine the influence of these attributes on the outcomes under investigation; and to identify the challenges associated with safety and awareness. The study adopted a descriptive survey research design, anchored on the Constructivist Learning Theory and the Technology Acceptance Model. A sample size of 405 respondents was determined using the Taro Yamane formula and selected through stratified and simple random sampling techniques, out of which 382 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 = 3.06). The study also found a statistically significant, moderate, positive relationship between the independent and dependent variables ($r = 0.531$, $p < 0.05$) and a significant dependent association on the chi-square test (chi-square = 9.2, $p < 0.05$). No statistically significant difference was found between male and female respondents ($t = 1.2$, $p > 0.05$). 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 safety.

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CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

The study of safety awareness in school chemistry 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.

safety, when examined in relation to awareness, reveals complex and often paradoxical dynamics. Evidence from national agencies indicates that safety has grown considerably in recent times, underscoring the need for systematic inquiry. The aggregate picture emerging from Adeniyi and Adeniyi (2023) points to a modest but consistent association between safety and the outcomes of interest. The cumulative effect of these dynamics is a situation that demands urgent and coordinated intervention. A notable study by Adekunle and Chukwu (2017) argued that the impact of safety is substantially mediated by the quality of institutions. For practitioners, the practical significance of safety cannot be overstated, given its demonstrable link with awareness. A recurring weakness in the literature concerns the difficulty of isolating the precise influence of {k0} from confounding factors.

A growing corpus of literature draws attention to the pivotal role of safety in shaping developmental trajectories. Globalisation and technological change have intensified both the opportunities and the challenges associated with safety. The work of Ekwueme and Ibrahim (2023) extended earlier analyses by demonstrating that awareness reinforces the effects of safety. These observations collectively invite a reconsideration of standard assumptions regarding awareness. Research by Oyelaran and Bello (2021) using mixed methods provided particularly rich insight into the mechanisms connecting safety and awareness. The cumulative effect of these dynamics is a situation that demands urgent and coordinated intervention. The reviewed studies, while valuable, are frequently dated, small in scale, or confined to a single locality.

The relationship between safety and awareness has been the subject of sustained academic interest across several disciplines. Rapid urbanisation and demographic expansion across Nigerian cities have heightened the salience of safety in everyday life. Evidence assembled by Oyelaran and Bello (2015) across twelve states underscored the heterogeneity of outcomes linked to safety. The weight of evidence therefore points toward a renewed commitment to evidence-based decision-making. Nwosu and Salami (2020), in a survey of relevant stakeholders, concluded that the benefits of safety are unevenly distributed across groups. For practitioners, the practical significance of safety cannot be overstated, given its demonstrable link with awareness. Despite these advances, notable gaps persist, particularly with respect to context-specific evidence from Nigeria.

Contemporary scholarship increasingly frames safety as inseparable from the broader question of awareness. Economic pressures and resource scarcity frequently determine the pace at which safety advances in practice. Findings reported by Okonkwo and Ibrahim (2018) observed that respondents with greater exposure to safety recorded markedly different results. The implications of these dynamics are far-reaching, touching questions of equity, efficiency, and accountability. An examination by Adekunle and Oyelaran (2019) attributed much of