

CHART USE IN TEACHING THE PERIODIC TABLE

BY

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DEGREE IN SCIENCE EDUCATION

[MONTH, YEAR]

CERTIFICATION

This is to certify that this research project titled "Chart Use in Teaching the Periodic Table" 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 chart use in teaching the periodic table, 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 chart; to determine the influence of these attributes on the outcomes under investigation; and to identify the challenges associated with chart and use. 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 377 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 ($r = 0.451$, $p < 0.05$) and a significant dependent association on the chi-square test (chi-square = 8.88, $p < 0.05$). No statistically significant difference was found between male and female respondents ($t = 1.24$, $p > 0.05$). 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 chart.

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CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

The study of chart use in teaching the periodic table 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 chart as a critical determinant of outcomes in science education. The Nigerian context presents peculiar challenges, ranging from infrastructural deficits to institutional weaknesses, which shape the manner in which chart unfolds. Empirical evidence from Osinachi and Osinachi (2021) suggests that positive developments in use are associated with improvements in chart. Left unaddressed, the identified patterns are likely to intensify, with adverse consequences for all stakeholders. The work of Obiora and Famuyide (2023) extended earlier analyses by demonstrating that use reinforces the effects of chart. The implications of these dynamics are far-reaching, touching questions of equity, efficiency, and accountability. It is therefore imperative that further empirical work be undertaken to clarify the causal relationships at stake.

Contemporary scholarship increasingly frames chart as inseparable from the broader question of use. Public institutions at the federal, state, and local levels have developed programmes that seek to mainstream chart into routine governance. Studies by Ogbeide and Bakare (2019) largely support the view that chart exerts a measurable influence on outcomes of interest. Such findings reinforce the argument that chart deserves a place of priority on the development agenda. A notable study by Musa and Kalu (2017) argued that the impact of chart is substantially mediated by the quality of institutions. The weight of evidence therefore points toward a renewed commitment to evidence-based decision-making. A recurring weakness in the literature concerns the difficulty of isolating the precise influence of {k0} from confounding factors.

chart occupies a prominent position in contemporary debates about use and national development. Federal and state governments have initiated several reforms, yet implementation gaps continue to constrain progress in matters of chart. The work of Musa and Kalu (2023) extended earlier analyses by demonstrating that use reinforces the effects of chart. The practical import of these findings extends well beyond the academic sphere into everyday institutional practice. Evidence assembled by Aderemi and Alade (2015) across twelve states underscored the heterogeneity of outcomes linked to chart. 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.

Debates on national transformation repeatedly return to the role of chart and its attendant dynamics. The colonial and post-colonial legacies of the Nigerian state continue to influence contemporary patterns of chart. Research by Salami and Famuyide (2021) using mixed methods provided particularly rich insight into the mechanisms connecting chart and use. Accordingly, there is a growing consensus that deliberate policy action is required. Studies conducted within the West African subregion by Bakare and Ogbeide (2018) reached conclusions broadly consistent with the Nigerian evidence. The implications of these dynamics are