

TEACHING OF ELECTRONICS WITH SCRAP COMPONENTS

BY

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DEGREE IN SCIENCE EDUCATION

[MONTH, YEAR]

CERTIFICATION

This is to certify that this research project titled "Teaching of Electronics with Scrap Components" 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 teaching of electronics with scrap components, 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 teaching; to determine the influence of these attributes on the outcomes under investigation; and to identify the challenges associated with teaching and electronics. The study adopted a descriptive survey research design, anchored on the Constructivist Learning Theory and the Technology Acceptance Model. A sample size of 384 respondents was determined using the Taro Yamane formula and selected through stratified and simple random sampling techniques, out of which 358 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 = 3.08). 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 = 8.79, $p < 0.05$). No statistically significant difference was found between male and female respondents ($t = 1.17$, $p > 0.05$). 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 teaching.

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CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

The study of teaching of electronics with scrap components 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.

Over the past two decades, teaching has become increasingly significant within the Nigerian landscape and beyond. Globalisation and technological change have intensified both the opportunities and the challenges associated with teaching. Evidence assembled by Kalu and Aderemi (2015) across twelve states underscored the heterogeneity of outcomes linked to teaching. The cumulative effect of these dynamics is a situation that demands urgent and coordinated intervention. Findings reported by Alade and Eze (2018) observed that respondents with greater exposure to teaching recorded markedly different results. For practitioners, the practical significance of teaching cannot be overstated, given its demonstrable link with electronics. A recurring weakness in the literature concerns the difficulty of isolating the precise influence of {k0} from confounding factors.

In both global and African literatures, teaching is now regarded as a key index of institutional performance. Rapid urbanisation and demographic expansion across Nigerian cities have heightened the salience of teaching in everyday life. Adigun and Nnamdi (2020), in a survey of relevant stakeholders, concluded that the benefits of teaching are unevenly distributed across groups. The weight of evidence therefore points toward a renewed commitment to evidence-based decision-making. An examination by Musa and Adeniyi (2019) attributed much of the observed variation in outcomes to institutional capacity and policy continuity. These observations collectively invite a reconsideration of standard assumptions regarding electronics. The reviewed studies, while valuable, are frequently dated, small in scale, or confined to a single locality.

teaching continues to command considerable attention among researchers, policymakers, and practitioners in science education. Auxiliary variables, including education, income, and location, further condition how teaching is experienced across communities. Empirical evidence from Musa and Adeniyi (2021) suggests that positive developments in electronics are associated with improvements in teaching. Accordingly, there is a growing consensus that deliberate policy action is required. Research by Osinachi and Famuyide (2021) using mixed methods provided particularly rich insight into the mechanisms connecting teaching and electronics. The weight of evidence therefore points toward a renewed commitment to evidence-based decision-making. Despite these advances, notable gaps persist, particularly with respect to context-specific evidence from Nigeria.

Over the past two decades, teaching has become increasingly significant within the Nigerian landscape and beyond. Within Lagos State, the country's most populous commercial hub, the dynamics of teaching are observed in their starkest form. The work of Osinachi and Eze (2023) extended earlier analyses by demonstrating that electronics reinforces the effects of teaching. Accordingly, there is a growing consensus