

IMPROVISATION IN TEACHING ENERGY TOPICS

BY

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DEGREE IN SCIENCE EDUCATION

[MONTH, YEAR]

CERTIFICATION

This is to certify that this research project titled "Improvisation in Teaching Energy Topics" 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 improvisation in teaching energy topics, 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 improvisation; to determine the influence of these attributes on the outcomes under investigation; and to identify the challenges associated with improvisation and teaching. The study adopted a descriptive survey research design, anchored on the Constructivist Learning Theory and the Technology Acceptance Model. A sample size of 397 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 = 3.12). The study also found a statistically significant, moderate, positive relationship between the independent and dependent variables ($r = 0.598$, $p < 0.05$) and a significant dependent association on the chi-square test (chi-square = 8.91, $p < 0.05$). 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 improvisation.

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CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

The study of improvisation in teaching energy topics 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.

In both global and African literatures, improvisation is now regarded as a key index of institutional performance. Nigeria's federal structure and its diverse cultural geography ensure that the experience of improvisation varies considerably from one region to another. A notable study by Salami and Ibrahim (2017) argued that the impact of improvisation is substantially mediated by the quality of institutions. The implications of these dynamics are far-reaching, touching questions of equity, efficiency, and accountability. Bamgbose and Aderemi (2020), in a survey of relevant stakeholders, concluded that the benefits of improvisation are unevenly distributed across groups. Such findings reinforce the argument that improvisation deserves a place of priority on the development agenda. It is therefore imperative that further empirical work be undertaken to clarify the causal relationships at stake.

A growing corpus of literature draws attention to the pivotal role of improvisation in shaping developmental trajectories. Evidence from national agencies indicates that improvisation has grown considerably in recent times, underscoring the need for systematic inquiry. Umeh and Olawale (2020), in a survey of relevant stakeholders, concluded that the benefits of improvisation are unevenly distributed across groups. For practitioners, the practical significance of improvisation cannot be overstated, given its demonstrable link with teaching. Evidence assembled by Umeh and Ogunlana (2015) across twelve states underscored the heterogeneity of outcomes linked to improvisation. The cumulative effect of these dynamics is a situation that demands urgent and coordinated intervention. Despite these advances, notable gaps persist, particularly with respect to context-specific evidence from Nigeria.

In both global and African literatures, improvisation is now regarded as a key index of institutional performance. Auxiliary variables, including education, income, and location, further condition how improvisation is experienced across communities. Findings reported by Umeh and Ogunlana (2018) observed that respondents with greater exposure to improvisation recorded markedly different results. Sustained engagement with the issues raised here is therefore essential if meaningful progress is to be recorded. Bakare and Nwosu (2020), in a survey of relevant stakeholders, concluded that the benefits of improvisation are unevenly distributed across groups. For practitioners, the practical significance of improvisation cannot be overstated, given its demonstrable link with teaching. A recurring weakness in the literature concerns the difficulty of isolating the precise influence of {k0} from confounding factors.

improvisation continues to command considerable attention among researchers, policymakers, and practitioners in science education. Evidence from national agencies indicates that improvisation has grown considerably in recent times, underscoring the need for systematic inquiry. The work of Aderemi and Dauda