

TRIGONOMETRY TEACHING WITH LOCAL BUILDING EXAMPLES

BY

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DEGREE IN SCIENCE EDUCATION

[MONTH, YEAR]

CERTIFICATION

This is to certify that this research project titled "Trigonometry Teaching with Local Building Examples" 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 trigonometry teaching with local building examples, 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 trigonometry; to determine the influence of these attributes on the outcomes under investigation; and to identify the challenges associated with trigonometry 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 394 respondents was determined using the Taro Yamane formula and selected through stratified and simple random sampling techniques, out of which 381 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 ($r = 0.52$, $p < 0.05$) and a significant dependent association on the chi-square test (chi-square = 5.79, $p < 0.05$). No statistically significant difference was found between male and female respondents ($t = 1.12$, $p > 0.05$). 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 trigonometry.

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CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

The study of trigonometry teaching with local building examples 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.

trigonometry, when examined in relation to teaching, reveals complex and often paradoxical dynamics. Nigeria's federal structure and its diverse cultural geography ensure that the experience of trigonometry varies considerably from one region to another. The work of Ekwueme and Nnamdi (2023) extended earlier analyses by demonstrating that teaching reinforces the effects of trigonometry. Sustained engagement with the issues raised here is therefore essential if meaningful progress is to be recorded. Studies conducted within the West African subregion by Bello and Aderemi (2018) reached conclusions broadly consistent with the Nigerian evidence. Sustained engagement with the issues raised here is therefore essential if meaningful progress is to be recorded. Despite these advances, notable gaps persist, particularly with respect to context-specific evidence from Nigeria.

Over the past two decades, trigonometry has become increasingly significant within the Nigerian landscape and beyond. Economic pressures and resource scarcity frequently determine the pace at which trigonometry advances in practice. Studies conducted within the West African subregion by Oyelaran and Chukwu (2018) reached conclusions broadly consistent with the Nigerian evidence. Left unaddressed, the identified patterns are likely to intensify, with adverse consequences for all stakeholders. A notable study by Adebayo and Famuyide (2017) argued that the impact of trigonometry is substantially mediated by the quality of institutions. Accordingly, there is a growing consensus that deliberate policy action is required. The reviewed studies, while valuable, are frequently dated, small in scale, or confined to a single locality.

trigonometry continues to command considerable attention among researchers, policymakers, and practitioners in science education. The socio-cultural diversity of Nigeria implies that responses to trigonometry must be differentiated rather than uniform. Longitudinal research by Adebayo and Famuyide (2016) revealed that sustained attention to trigonometry yields appreciable dividends over time. Sustained engagement with the issues raised here is therefore essential if meaningful progress is to be recorded. A notable study by Obiora and Aderemi (2017) argued that the impact of trigonometry is substantially mediated by the quality of institutions. The practical import of these findings extends well beyond the academic sphere into everyday institutional practice. Despite these advances, notable gaps persist, particularly with respect to context-specific evidence from Nigeria.

The phenomenon of trigonometry, while not new, has acquired fresh analytical urgency in Nigeria. Economic pressures and resource scarcity frequently determine the pace at which trigonometry advances in practice. A notable study by Adebayo and Bello (2017) argued that the impact of trigonometry is substantially mediated by the quality of institutions. Accordingly, there is a growing consensus that deliberate policy action is