

ASSESSMENT OF PROJECTILE MOTION PARAMETERS AND TRAJECTORY CHARACTERISTICS

BY

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DEGREE IN PHYSICS

[MONTH, YEAR]

CERTIFICATION

This is to certify that this research project titled "Assessment of Projectile Motion Parameters and Trajectory Characteristics" 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 assessment of projectile motion parameters and trajectory characteristics, 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 assessment; to determine the influence of these attributes on the outcomes under investigation; and to identify the challenges associated with assessment and projectile. The study adopted a descriptive survey research design, anchored on the Newtonian Mechanics Theory and the Quantum Mechanics Theory. 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 356 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 = 3.15). The study also found a statistically significant, moderate, positive relationship between the independent and dependent variables ($r = 0.552$, $p < 0.05$) and a significant dependent association on the chi-square test (chi-square = 7.62, $p < 0.05$). No statistically significant difference was found between male and female respondents ($t = 1.1$, $p > 0.05$). 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 assessment.

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CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

The study of assessment of projectile motion parameters and trajectory characteristics 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.

Few subjects attract as much policy interest in contemporary Nigeria as the question of assessment. Federal and state governments have initiated several reforms, yet implementation gaps continue to constrain progress in matters of assessment. Evidence assembled by Dauda and Nwosu (2015) across twelve states underscored the heterogeneity of outcomes linked to assessment. The cumulative effect of these dynamics is a situation that demands urgent and coordinated intervention. A notable study by Ogbeide and Osinachi (2017) argued that the impact of assessment is substantially mediated by the quality of institutions. 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.

Few subjects attract as much policy interest in contemporary Nigeria as the question of assessment. Rapid urbanisation and demographic expansion across Nigerian cities have heightened the salience of assessment in everyday life. Empirical evidence from Bello and Umeh (2021) suggests that positive developments in projectile are associated with improvements in assessment. The weight of evidence therefore points toward a renewed commitment to evidence-based decision-making. Evidence assembled by Oyelaran and Olawale (2015) across twelve states underscored the heterogeneity of outcomes linked to assessment. Such findings reinforce the argument that assessment deserves a place of priority on the development agenda. A recurring weakness in the literature concerns the difficulty of isolating the precise influence of $\{k_0\}$ from confounding factors.

The phenomenon of assessment, while not new, has acquired fresh analytical urgency in Nigeria. The Nigerian context presents peculiar challenges, ranging from infrastructural deficits to institutional weaknesses, which shape the manner in which assessment unfolds. Research by Oyelaran and Olawale (2021) using mixed methods provided particularly rich insight into the mechanisms connecting assessment and projectile. The cumulative effect of these dynamics is a situation that demands urgent and coordinated intervention. Studies conducted within the West African subregion by Ibrahim and Bamgbose (2018) reached conclusions broadly consistent with the Nigerian evidence. These observations collectively invite a reconsideration of standard assumptions regarding projectile. Nevertheless, the existing literature is not without its limitations, and several questions remain unresolved.

assessment continues to command considerable attention among researchers, policymakers, and practitioners in physics. The colonial and post-colonial legacies of the Nigerian state continue to influence contemporary patterns of assessment. Adeniyi and Bello (2020), in a survey of relevant stakeholders, concluded that the benefits of assessment are unevenly distributed across groups. These observations collectively invite a