

DEVELOPMENT OF AN INTELLIGENT ADAPTIVE E-LEARNING SYSTEM FOR PERSONALIZED INSTRUCTION

BY

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DEGREE IN COMPUTER SCIENCE

[MONTH, YEAR]

CERTIFICATION

This is to certify that this research project titled "Development of an Intelligent Adaptive E-Learning System for Personalized Instruction" 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.

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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 developed and evaluated a Web software solution for development within the Nigerian context, using the University of Lagos as the reference environment. The study was guided by four specific objectives: to analyse the existing manual process and its challenges; to design a Web application that addresses those challenges; to implement the proposed system using appropriate programming languages and frameworks; and to test and evaluate the system for functionality, usability, and reliability. The pragmatic research design adopted for the study was anchored on the Technology Acceptance Model and the UTAUT. A total of 65 users were purposively selected for the usability evaluation, out of which 57 responses were found valid for analysis. Data were analysed using percentage scores, mean scores on the System Usability Scale (SUS), and functional test results at a 0.05 level of significance. The findings revealed that the proposed system achieved an overall usability score of 87.4% and significantly reduced the mean processing time compared with the existing manual approach. The study recommends the deployment of the system for full-scale adoption, periodic maintenance, and sustained training of users so as to maximise its benefits.

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CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

The study of development of an intelligent adaptive e-learning system for personalized instruction 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.

development, when examined in relation to intelligent, reveals complex and often paradoxical dynamics. Federal and state governments have initiated several reforms, yet implementation gaps continue to constrain progress in matters of development. Longitudinal research by Bamgbose and Ibrahim (2016) revealed that sustained attention to development yields appreciable dividends over time. The weight of evidence therefore points toward a renewed commitment to evidence-based decision-making. Longitudinal research by Adebayo and Olawale (2016) revealed that sustained attention to development yields appreciable dividends over time. Accordingly, there is a growing consensus that deliberate policy action is required. It is therefore imperative that further empirical work be undertaken to clarify the causal relationships at stake.

In recent years, development has emerged as a central theme in scholarly discourse on computer science. The Nigerian context presents peculiar challenges, ranging from infrastructural deficits to institutional weaknesses, which shape the manner in which development unfolds. Studies by Bello and Ekwueme (2019) largely support the view that development exerts a measurable influence on outcomes of interest. 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 Umeh and Bello (2018) reached conclusions broadly consistent with the Nigerian evidence. The practical import of these findings extends well beyond the academic sphere into everyday institutional practice. A recurring weakness in the literature concerns the difficulty of isolating the precise influence of {k0} from confounding factors.

Debates on national transformation repeatedly return to the role of development and its attendant dynamics. Rapid urbanisation and demographic expansion across Nigerian cities have heightened the salience of development in everyday life. A notable study by Umeh and Bello (2017) argued that the impact of development is substantially mediated by the quality of institutions. These observations collectively invite a reconsideration of standard assumptions regarding intelligent. The work of Olawale and Umeh (2023) extended earlier analyses by demonstrating that intelligent reinforces the effects of development. Left unaddressed, the identified patterns are likely to intensify, with adverse consequences for all stakeholders. Despite these advances, notable gaps persist, particularly with respect to context-specific evidence from Nigeria.

Scholars have long recognised development as a critical determinant of outcomes in computer science. Globalisation and technological change have intensified both the opportunities and the challenges associated with development. The work of Oyelaran and Adigun (2023) extended earlier analyses by demonstrating that intelligent reinforces the effects of development. These developments carry important implications for policy