

Conceptual Framework of Factors Influencing Generative AI Adoption in Instructional Design among Basic Education Teachers in Thailand

Surapon Boonlue

Associate Professor, Educational Technology and Communications, Faculty of Industrial Education and Technology (FIET), King Mongkut's University of Technology Thonburi (KMUTT), Thailand

Anirut Satiman

Associate Professor, Educational Technology, Faculty of Education, Silpakorn University, Thailand

Natchanan Chanthakupt

Civil Servant of the Innovation Promotion Center for Development, Institute for the Development of Teachers, Lecturers and Educational Personnel, Office of the Permanent Secretary, Ministry of Education

Vitsanu Nittayathamkul

Lecturer, Ratchasuda Institute, Faculty of Medicine Ramathibodi Hospital, Mahidol University, Thailand

Abstract

The exponential growth of digital technologies has reshaped education, offering novel approaches to teaching and learning. Generative AI, in particular, enables personalized, interactive, and efficient instructional design for basic education. Despite these advantages, many Thai teachers struggle with its integration due to limited guidance and readiness. Drawing on a social ecological perspective, this study presents a conceptual framework encompassing 12 key factors that shape Generative AI adoption among Thailand's basic education teachers. These factors are organized into four levels— Individual, Interpersonal, Institutional, and Policy— to capture the multifaceted nature of technology acceptance. Specifically, Individual-Level Factors include Perceived Ease of Use, Perceived Usefulness, Self-Efficacy, Attitude Towards Using AI, and Behavioral Intention to Use AI; Interpersonal-Level Factor focuses on Peer Influence; Institutional Level Factors highlight Institutional Support, System Quality, Information Quality, Service Quality, and Workload; and Policy-Level Factor addresses Policy and Regulations. This conceptual framework provides a structured foundation for analyzing teachers' readiness and Generative AI adoption in instructional design among basic education teachers in Thailand, guiding policymakers, administrators, and in-service teacher professional development programs in devising targeted strategies, allocating resources, and creating supportive environments. Future research can validate and refine these factors to foster sustainable, AI-driven educational innovations in Thailand's basic education.

Keywords

Generative AI, Instructional Design, Technology Adoption, Conceptual Framework, Basic Education, Thailand.