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Evaluating the Usability of the PInTar Model (Technology-Integrated Instructional Model) for Primary Education

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Abstract

The effective integration of technology into classroom instruction requires an instructional framework that systematically aligns pedagogy, technology, learner engagement, and assessment. However, many existing instructional models provide limited practical guidance for teachers in implementing technology-enhanced teaching in primary education. This study aimed to evaluate the usability of the PInTar Model (Technology-Integrated Instructional Model), an instructional framework developed to support systematic instructional planning and implementation through meaningful technology integration. The study adopted the Design and Development Research (DDR) approach and focused on the evaluation phase using the Modified Nominal Group Technique (Modified NGT). Thirty experienced primary school teachers participated as expert practitioners in evaluating the usability of the model. Data were analysed using percentage agreement based on predetermined acceptance criteria. The findings revealed high usability across all six major components of the model, namely Learner Analysis, Learning Objectives, Selection of Instructional Strategies, Media and Learning Resources, Technology-Enhanced Instruction, Active Student Engagement, and Integrated Assessment. All instructional elements, instructional sequences, and overall usability dimensions achieved agreement levels exceeding the established acceptance threshold, demonstrating strong practitioner consensus regarding the model's practicality, comprehensiveness, and implementation readiness. These findings indicate that the PInTar Model provides a coherent, systematic, and practitioner-oriented instructional framework that supports meaningful technology integration in primary education. The study contributes to the field of instructional design by providing an empirically validated instructional model that can guide teachers in designing effective, learner-centred, and technology-enhanced instructional practices.

Keywords: Technology Integration; Instructional Design; Instructional Model; Usability Evaluation; Modified Nominal Group Technique; Primary Education