

Teachers' Self-Regulated Learning on Cloud-Based Platforms: Effects of Adaptation and Digital Literacy on Teaching Effectiveness

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Abstract:

With the rapid advancement of digital technologies and the ongoing transformation of education through digitalization, teachers' learning on cloud-based platforms have become a crucial pathway for enhancing professional development and teaching quality. This study aims to investigate the impact of high school teachers' self-regulated learning on educational cloud platforms on their adaptation and teaching effectiveness. This study further explores the mediating role of adaptation in the relationship between self-regulated learning and teaching effectiveness, as well as the moderating effect of digital literacy on this relationship.

A quantitative research design is employed, targeting high school teachers in Taiwan through a structured questionnaire. Structural equation modelling is used to analyse the data and examine both direct and indirect relationships among the variables. The results suggest that teachers' self-regulated learning positively predicts their teaching effectiveness, with adaptation serving as a partial mediator. Moreover, digital literacy positively moderates the relationship between self-regulated learning and adaptation—teachers with higher digital literacy are more likely to exhibit adaptive regulation during the learning process, thereby enhancing teaching effectiveness.

This study contributes to a deeper understanding of the interplay between psychological and skill-based factors in teachers' professional development. It also provides empirical evidence for educational policymakers and teacher training institutions to design more supportive digital learning environments and professional growth mechanisms.

Keywords:

Self-regulated learning, adaptation, teaching effectiveness, digital literacy.