

## Investigating the Role of Self-regulated Learning Abilities in Digital Learning for Students from a Sustainability Perspective

**Jing-Wen Huang**

Professor at the Graduate Institute of Educational Administration, National Pingtung University, Taiwan

**Shan-Lin Yang**

Junior high school teacher in Pingtung County Fang Liao High School, Taiwan

### **Abstract:**

The United Nations Sustainable Development Goals (SDG4) focuses on providing equal educational opportunities and improving students' learning outcomes. Digital learning and self-regulated learning are international trends of sustainable education. Taiwan has launched the adaptive learning platform which integrates the concept of the SDG 4 and the vision of the 12-year national education curriculum. The adaptive learning platform emphasizes "adaptive talent development and lifelong learning" to cultivate students' self-regulated learning abilities. How students use adaptive learning platform for self-regulated learning to cope with environmental challenge is worth discussing. Based on the model of Zimmerman and Moylan (2009), this study employs the questionnaire survey method to explore the learning effectiveness of adaptive learning platform. The research participants are 445 senior students in elementary schools. The findings suggest that motivational belief has significantly positive effects on self-control and adaptation. Self-control has a significantly positive effect on adaptation. Adaptation has significantly positive effects on learning effectiveness. This study further demonstrates that self-control has a mediating effect on the relationship between motivational beliefs and adaptation, and adaptation has a mediating effect on the relationship between self-control and learning effectiveness. Self-control and adaptation are important mediating variables between motivational beliefs and learning effectiveness. This study provides practical implications for schools to use the adaptive learning platform for sustainable education.

### **Keywords:**

SDG4, self-regulated learning, adaptation, learning effectiveness.