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## Use of Mobile Technologies to Promote Scientific Discovery Learning in Elementary School

### Abstract

The purpose of the study was to identify educational effects of a new learning method that integrates mobile-technology-based science learning with activity-oriented discovery learning. The major finding of the study was that the mobile-technology-based Science program enabled students to learn scientific knowledge through associated activities and creatively apply their knowledge to complete the mission of the learning. Also, the study found that the use of tablet PCs and SNS for scientific inquiry activities facilitated students to learn in fun ways, to collaborate with other students, and to share what they have learned with each other.

**Keywords:** *mobile technology, discovery learning, Smart Science*

### Introduction

Children, unlike adults, prefer learning by concrete operations and physical activity. This is children's natural tendency in the process of cognitive development. Piaget (1929) argued in his theory of cognitive development that children's cognitive development requires providing them with rich and diverse experiences and facilitating smooth teacher-student and student-student interactions. Many science education experts say that discovery learning is a teaching method that facilitates children's cognitive development and helps them deeply understand scientific phenomena (Hammer, 1997; Kipnis, 2007; Kirschner, Sweller & Clark, 2006; Matthews, 2002; Mayer, 2004). Discovery learning, which is a voluntary and active intellectual activity, involves developmental changes in the learner's conceptual system. From