Abstract

The paper reports new enhancement of teaching methodology and created mental models for improvement of programming skills of students in the area of object-oriented paradigms. Each observation involved a combination of paperbased single-learning training session, tutorial-based session, and a web-based single-learning training session. The goal is to evaluate the expertise and the amount of accumulated knowledge of junior and senior students. New integrated cognitive model of understanding the object-oriented paradigm has been proposed and developed, which strengthen the student learning and problem solving skills. The case studies results indicate that users benefit from the developed teaching methodologies and tools. Based on the performed experiments we have suggested approaches for improvement of the metacognitive skills of students.