The Study of Effectiveness of Multimedia-Game Style Drill-and-Practice CAI System with Multi-Input Devices

楊秋玲、魏丕信

ABSTRACT

Most drill-and-practice CAI systems have been criticized as dry and bored instruction systems. The main purpose of this study was to empower drill-and-practice CAI system with multimedia and multi-input devices, and then examined its effectiveness on students' learning outcomes. In this research, three different interface modes drill-and-practice CAI systems were developed (including traditional drill-and-practice CAI, multimedia-game style drill-and-practice CAI, and multi-input devices multimedia-game style drill-and-practice CAI). Sixty preschool students were randomly assigned to use the three systems, and the learning outcome (test score, using time, practicing amount, and satisfaction) were studied. The result showed that students using multimedia-game style drill-and-practice CAI, and multi-input devices multimedia-game style drill-and-practice CAI tool more time to practice and would like to practice more math questions than the students using traditional drill-and-practice CAI. However, there were no significant differences of testing score among three systems. For satisfaction evaluation, most students preferred multi-input devices multimedia-game style drill-and-practice CAI.

Keywords: multimedia-game drill-and-practice CAI, interface, multi-input devices.