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למידת מושגים בתכנות בחטיבת הביניים באמצעות Scratch

Learning Programming Concepts using Scratch at the Middle-School Level

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Abstract

Scratch is a visual programming system that was created at MIT to facilitate the learning of programming. While Scratch is used in developing computer animations, there is little research that evaluates its pedagogical potential on students' understanding of and attitudes toward computer programming. This research project evaluated the use of Scratch as a platform for learning computer programming concepts at the middle-school level. Both quantitative and qualitative research instruments were used: questionnaires, assignments, interviews and observations.

The results showed that in general using Scratch is helpful in understanding computer programming concepts, although the results were not uniform for all concepts, with the students learning repeated execution, event and spatial orientation better than conditional execution, variable and message-passing. Furthermore, students were more successful at manipulating constructs for concepts than they were at analyzing and recognizing these concepts.