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Tri-P-LETS: Changing the face of high school computer science.

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Summary: From 2004–2007, the University of Memphis carried out the NSF-funded Tri-P-LETS (Three P Learning Environment for Teachers and Students) project to improve local high-school computer science curricula. The project reached a total of 58 classrooms in eleven high schools emphasizing problem solving skills, programming concepts as opposed to syntax, and the use of a disciplined process. Graduate student Fellows from the university worked closely with local high-school teachers, being present in their classrooms as well as developing new lesson materials. Participating teachers used the AgentSheets simulation software to teach basic programming ideas and Lego Mindstorms robots to introduce students to object-oriented programming. This article describes some assignments used in the classroom and discusses how modern software engineering principles were integrated into the curriculum. It also presents the results from student and teacher evaluations of the project.

Classification: Q44 Q34

Keywords: computer science education; curriculum development; innovation educational software