

Robotics Educators Conference 2008

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Presentations & Presenters

A Web 2.0 Blended Learning Environment for Robotics Education

Steve Nies / Profound Learning Systems

Emma Alaba / Computer Learning Center

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Educators have discovered that robots provide new and exciting ways to teach students about STEM concepts. Given the

advantages of robotics-based education schools across the nation are busy creating after-school robotics programs. Although the programs are well-received by teachers, students and parents, a pattern of challenges is beginning to emerge:

- Busy schedules - given the various demands on free time for both teachers and students it is often difficult to carve

out a common time for everyone to meet face-to-face.

- Meeting time is limited - if a common meeting time can be found it is often just an hour or two per week.

Such a short time period makes it difficult to both teach lessons as well as apply the lessons to actually build robots.

- Distance to school limits who can participate - Students who commute to school from far distances may not be

able to fully participate due to transportation issues.

- Knowledge silos - Classroom-based programs tend to form "soft boundaries" that inhibit the transfer of knowledge,

best practices, and lessons learned across school districts. Lessons learned and innovative solutions created by students

in a particular classroom often stay just within that classroom.

This presentation will share lessons learned from teaching summer camps and after-school programs using a traditional instructor-led teaching approach. In the presentation the author will describe his on-going work of migrating to a blended learning approach using Web 2.0 community technologies integrated with a Learning Management System.

The goal is to have students first use the web-based LMS to learn the robot-related STEM concepts and then meet face-to-face to perform hands-on labs. The hypothesis examined in this presentation is whether using an LMS helps students learn core concepts more effectively, thereby enabling hands-on sessions to focus on the application of the newly acquired knowledge. The LMS selected for this program provides a patented learning model that has been proven to significantly improve students' ability to retain key learning points over an extended period. An ancillary benefit is the ability to provide insight into a student's learning progress to key stakeholders such as instructors and parents. Access to the LMS and community website is being offered to schools and home school groups free of charge.



Robotics Conference 2008
Robot City
Group pictures





