

throughmywindow.org

Look at engineering education through a new window.

What is it?

Through My Window is an engineering education project that applies research from the learning sciences—including the use of cognitive tools such as narrative and knowledge building—in an idea-centered digital environment. Together these educational approaches support deep learning and address the critical need of preparing young learners to participate in the knowledge society. The digital environment includes **young adult novels and interactive, multimedia learning adventures** in which users participate with the characters from the novel. The project establishes relevance and broadens perceptions for traditionally underrepresented groups in engineering—especially girls—in informal educational settings.

Audience

- Children and young teens
- Afterschool educators and administrators

Partners

- Smith College
- Springfield Technical Community College
- Connecticut After School Network
- University of Massachusetts Center for Educational Software Development (CESD)
- University of Massachusetts Donahue Institute



Springfield Technical
Community College



Aligned with standards. Curriculum supported. A multimedia educational website filled with stories, mysteries, explorations, and adventures. Explore engineering concepts such as artificial intelligence, engineering design, and engineering ethics.



What questions were asked?

Hypothesis #1: A knowledge building discourse can be started and maintained in an informal education setting.

- What is the quality of the knowledge building discourse? Does it get better over time?
- Will students, given the opportunity, extend the discourse to new areas?
- What scaffolding does the learning environment need to support novice participants in this discourse?

Hypothesis #2: The use of narrative can provide a means to motivate informal learners to engage in knowledge building.

- Does the use of narrative influence participation in knowledge building?
- Are certain types of narratives more effective in influencing participation in knowledge building?

Challenges

- Applying learning theory in a digital environment can challenge website programmers
 - **Solution:** innovative integration of design and programming teams
- Implementation in diverse afterschool landscape
 - **Solution:** blended online learning for educators, adaptable project pathways for different settings and programs

Evaluation

- Positive beta testing completed indicating high level of student engagement in engineering concepts after using website
- Strong interest from afterschool educators and administrators for idea-centered afterschool STEM programming for diverse student groups