Innovation Spaces in School Libraries: A Sustainable Model?

By Dr Carol A. Gordon

The fact is that given the challenges we face, education doesn't need to be reformed – it needs to be transformed. The key to this transformation is not to standardise education, but to personalise it, to build achievement on discovering the individual talents of each child, to put students in an environment where they want to learn and where they can naturally discover their true passions. (Ken Robinson, The Element: How Finding Your Passion Changes Everything)

The Innovation Centre seems to be the next generation of re-inventions for school libraries. Students engage in design thinking in physical and virtual spaces that become collaborative laboratories for students to share knowledge. Some versions of innovation centres provide workshops, presentations, and lectures to support creativity and production. Group projects are grounded in real-life issues such as environment, politics, or health. Students develop a proposal that is vetted by educators to ensure that the planning and implementation of the project challenges students to develop concepts and skills. Instead of traditional teacher-directed instruction an adviser works with students to help them develop a business plan or provide a new service to the community. Some schools connect with the business community or professionals in medicine, engineering or marketing. Often students develop schematics and build electronic innovations such as gaming tables or three-dimensional graphics. An interesting spin-off of the concept is a funding model whereby school librarians go beyond their school communities to seek funding from the private sector.

How can teacher-librarians develop such a concept in their schools and what would these innovative spaces look like in a high school library? At a conference of the Massachusetts School Library Association this year I moderated a panel discussion that included presentations by teacher-librarians who worked with the concept of an innovation centre. This article features the work of Amy Fiske from Wellesley High School who piloted the idea. What can we learn from Amy's experience?

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Case Study: Wellesley High School Library

Amy launched the Innovation Centre during her first year on the job as teacher-librarian at Wellesley High School. Her principal presented the idea when she interviewed for her job. 'It started with interest and commitment,' she said. Amy attributes the success of the Innovation Centre to strong administrative support and a team approach. She worked with the principal, Dr. Andrew Keough, the Director of Libraries, Dr. Carolyn Markuson, Dr. Robert Cohen, Mathematics and Computer Science teacher, and the librarian she was replacing, Deeth Ellis. They visited the Cambridge Innovation Centre in 2012 and the following year spent a lot of time researching existing innovation centres and sharing what they learned.

Amy viewed developing the Innovation Centre as a process:

In the discussion and research phase, we realised that we needed to slow down a bit and work on building an innovation culture. We believe that building and fostering an innovation culture will drive new programs and, eventually, turn the whole school into an Innovation Centre. (Amy Fiske)

Amy was more focused on creating a mind-set of an innovation space in her library rather than re-conceptualising the school library as an Innovation Centre.

During the 2013-2014 school year Wellesley High School is implementing their Innovation Space in three phases: The Touch Table; The Marshmallow Challenge; and The Mobiquity Innovation Challenge.

The Touch Table

Several years ago two Wellesley students created a touch screen computer as a Senior Project. They took apart a flat screen television, added a touch sensor, hooked up a computer, and wrote programs for the device. The woodshop

teacher and one of Amy's library assistants built a table to house the equipment. The resulting Touch Table is a PC with a browser and a few programs, which are basically like apps. Amy launched Touch Table during Computer Science Week and encouraged students to use it for an 'hour of code' as this student is doing in the photograph below.

Touch Table

The student is dragging and dropping little bits of code to manipulate a simple computer game. His engagement attracted other students who asked questions and he proceeded to teach anyone who would listen.

Then something truly amazing happened . . .

The Touch Table drawing a crowd.

The Touch Table became a magnet for attracting students. Amy noted, 'Students . . . started playing and working together . . . hanging out with kids they don't normally hang out with.'

*Students working together to create collaborative art.*

The Touch Table changed the social dynamics of school culture as students discovered common interests. Amy considered the Touch Table a HUGE step in breaking down barriers among students and creating the sense of community in which innovation thrives.

The Marshmallow Challenge

The idea for this project came from Tom Wujec's TED Talk and his website. The goal for this challenge was to formally introduce students to the idea of working in groups to solve a problem. Students worked in randomly assigned groups of three to five to build the tallest free-standing structure, capped by a marshmallow.

The Marshmallow Challenge.
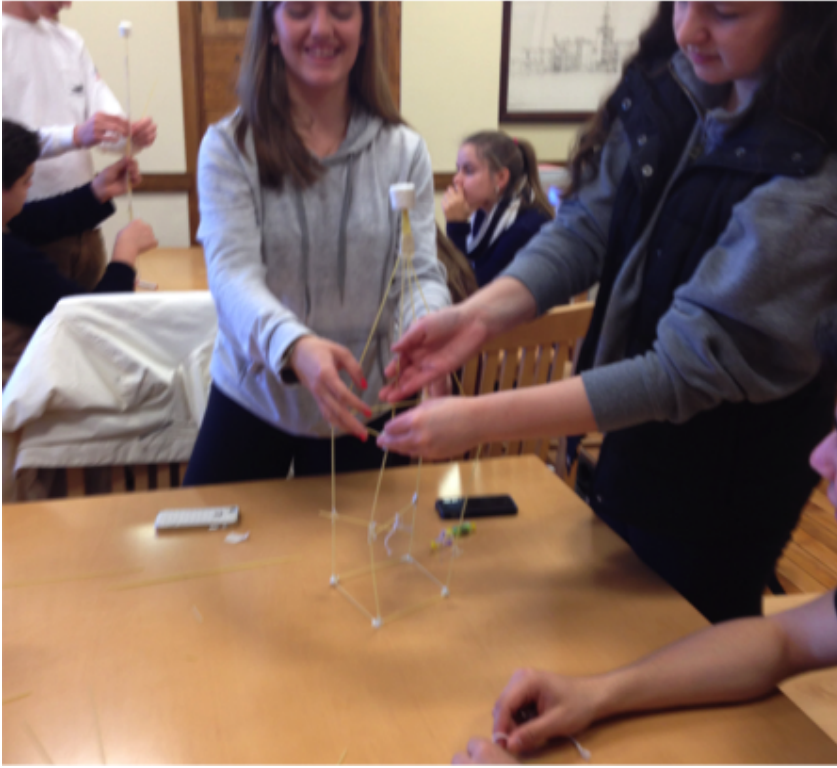
The Marshmallow Challenge.

The materials they worked with included 20 pieces of spaghetti, one yard of string, one yard of tape, and one marshmallow. Students are able to complete the project in 18 minutes so it was scheduled during the Advisory period.

Amy commented on what her students learned from the Marshmallow Challenge:

> The way to be successful is to build prototypes [and] just try stuff and see what works, rather than trying to plan the whole thing ahead of time. (Amy Fiske)

Her students learned that trial and error was part of the problem-solving process and that we can be successful when we learn from our mistakes. The Marshmallow Challenge was also fun. It was another step toward building community.

The Mobiquity Challenge

The Marshmallow Challenge led directly into the Mobiquity Challenge, which is a work in progress in Amy's library. The idea for an Innovation Challenge was developed in partnership with Mobiquity, a Wellesley-based technology company that designs apps. They helped Amy and her team to create a contest around a design thinking process, with the focus on applying design thinking to real world problems. Mobiquity is also providing mentors and one of the final prizes.

At this point Wellesley students have developed and presented their proposals and are now in the building and testing phase. In the upcoming week they will present and defend their projects. Currently there are only a few teams going through the design process so Amy is exploring ideas for generating more interest next year. Possible options include competition with other school districts and granting academic or independent study credit to participating students. A contest will also be included next year

Amy summarised the benefits of this three-stage process that served to build a culture of experimentation and innovation in her school. The challenges reduced student stress and created more resilient adolescents who were not only able to problem-solve: They had confidence that they could do so. Students seemed more relaxed with each other. This project facilitated

The challenges reduced student stress and created more resilient adolescents . . . This project facilitated more human interaction, enhanced school spirit and a sense of community . . .

more human interaction, enhanced school spirit and a sense of community in a school of ethnically diverse students. Developing an Innovation Space has challenged Amy and her colleagues to engage in evidence-based practice as they use observation to decide what worked and what could work better. This kind of reflective practice ensures that they will not only repeat the innovation project each year, but that they will do it better each time.

The mind-set of innovation space

A significant effect of Wellesley's Innovation Space was the way it changed school culture. A school-wide perspective supported the idea that innovation and design thinking can happen everywhere in the school to reach all students. Digital technology removed barriers among students, yet low- and no-tech projects were seen as appropriate contexts for problem-solving.

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The Innovation Space changed the way students interacted, which had an impact on their sense of community. These interactions transformed the library into a think tank of ideas. The teacher-librarian was seen as an innovator, co-teacher, and teacher of teachers. School administration supported the project and encouraged creative teaching. The innovative space concept offers a viable model for sustainability for school libraries at a time when funding for school libraries in the U.S. is precarious. The private sector sees the connection between teaching design thinking and preparing students to be productive and creative workers and is willing to fund projects. This is a small step from acknowledging the connection between 21st century skills and the school library's preparation of students to be productive and creative workers.

What would it look like if teacher-librarians adopt the mindset of design thinking and Innovative Spaces and apply it to teaching 21st century skills, including information- and inquiry-based learning, literacy and transliteracy literacy practices, technology integration, and critical thinking? Like Innovation Spaces, the school library has the potential to transform how we educate youth, how we personalise their learning, discover individual talents, and create an environment where young people want to learn and where they can discover their passions.

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