Project Based Learning

The Maker Movement!

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The Maker Movement as PBL

Loertscher et al (2013) define a makerspace as follows:

It is a destination for thinking, learning, doing, creating, producing and sharing; a space that takes advantage of multiple learning styles. It is a place to reinvent old ideas with new conceptual frameworks, utilize advancements in thinking and doing, and investigate and construct a hybrid of fine arts, sciences, crafts, industrial technologies, foods, inventions, textiles, hobbies, service learning, digital media, upcycling, STEM/STEAM, and DIY (do it yourself) and DIT (do it together) concepts.
Planning a Makerspace

Before creating a dedicated school makerspace, planning needs to take place. Things to consider include:

- **Space**: Where will the space be housed? Will it be a fixed space, or a flexible space? What types of activities does the space need to accommodate?

- **Funding**: How will materials, tools, instruction, and staffing be funded for a makerspace/fab lab?
Accessibility: How will students and staff access the space’s materials and tools? Will it be sign-up based; can tools be rented out; will the space be available during free periods; etc.?
Possible Makerspace Activities

- Cardboard Construction
- Prototyping
- Woodworking
- Electronics
- Robotics
- Digital fabrication
- Building bicycles and kinetic machines
- Textiles and sewing

(From edutopia.org)
Makerspace Resources

Now that you’ve decided to create a makerspace at your school, where can you access helpful resources?

- [Invent to Learn](#)
- [The Makerspace Playbook](#)
- [Young Makers](#)
- [Make Space: The Book](#)
- [Renovated Learning](#)
- [Instructables](#)
What did we do at Hopkinton High School?

Check it out...
About the HHS Makerspace

The HHS Library received a grant from the Hopkinton Education Foundation to establish a makerspace in the school library.

To get around the lack of space issue, we repurposed the former work room of the library to be our creative space, and we also used existing shelving for storage of tools and materials. Although not ideal, it did give us a great starting point!

We’ve since brought the makerspace out into the main room of the library for ease of accessibility.

Click the picture to see a time-lapse video of one of our students creating some chalkboard art for us!
What’s in the HHS Makerspace?

- 3D Printer
- Lego Mindstorms Robotics Kits
- Sewing Machine
- Arduino Kits
- Makey Makey Kit
- Various textiles
- Shadow printing kits
- Paints and canvases

& more!
What we’ve learned...

- HHS students love having a dedicated spot outside of the classroom to create, explore, and embrace the DIY-spirit
- Students are very inventive and willing to share their knowledge with others
- Pretty much any material can be upcycled or repurposed when designing
- The “Maker Movement” is complementary to our HHS STEAM-related curriculum, and fosters student curiosity
- With a few supplies and a willingness to try new things, you can create a lot of “stuff”

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