Learn to Make – Make to Learn
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Introduction
As a Teacher Librarian, I am particularly interested in the area of information literacy or research skills. The traditional mode of demonstrating the results of student research has been the research essay. I was curious to know if the act of Making increases depth of understanding in students. Does a process where the product or evidence of knowledge creation is physically or digitally made allow the students to develop a more complete understanding of academic curriculum than the process of writing?

The Research Question
How can a student-directed Maker approach to inquiry foster depth of understanding in a Grade 11 Social Studies research unit?

Research Context
St. George’s School is situated in Vancouver, BC, and is a community of 1150 boys from Grades 1-12. Our Senior School is Grades 8-12 and houses about 625 day boys and 125 boarders from more than 18 countries around the world. Our academic focus helps prepare 99% of our graduates for post-secondary careers at some of the most well-respected universities in the world. Our academic focus helps prepare 99% of our graduates for post-secondary careers at some of the most well-respected universities in the world. The Research Action
Prior to this year, each Grade 11 Social Studies student was required to write an academic essay on the process of Making increases depth of understanding in students. The Research Action
How can a student-directed Maker approach to inquiry foster depth of understanding in a Grade 11 Social Studies research unit?

Qualitative data were collected from the following:
- Learning Logs
- Final Assignment Products
- Project Proposals
- Interviews
- Surveys
- Informal Discussions
- Group Reflections
- Student Presentations

Data Collection

Data Analysis
While analysis and reflection on the data collected started as soon as data started coming in, the primary mode of analysis was to transcribe key quotes and ideas onto index cards, and note larger observations and reflections in a journal. The index cards were then re-ordered in a number of ways to identify similarities and contradictions in concepts emerging from the data. The most productive categories identified thinking around: curricular content, the research process, the making of the final product, time management, and other miscellaneous ideas.

Key Findings and Discussion
• There has to be a connection to the specific topic at the centre of the inquiry
  “I play guitar and I’m a big fan of classic rock music. So I decided...that I would try and incorporate that into my project this term on protest movements.”
• Students either have few skills outside of what they have been explicitly taught in school, or they don’t see what skills that they do have as being applicable or of a high enough quality to be useful in their particular situation.
• The implications for the need to scaffold the learning of Maker skills are key
  The placement of the decision regarding what form the final product will take is also important, but depends on many factors
  ...“struggling to find a way to make a 3D model and display my information on it in an attractive way.”
• Not only is the scaffolding of the Making essential, but the inquiry needs to be structured in such a way that the thinking is visible and that there are opportunities to assess (not always evaluate) the process
• Making provides an opportunity for students to be able to think through their topics and tell their stories in different ways
  ...settled on making a text-based, choose-your-own adventure style game. I feel this is a good way of keeping the audience interested, lets them explore the decisions that a draft dodger may have had to make, and is still able to give historically accurate information.”

Conclusions / Implications for Practice
Making and Inquiry exist on a continuum. Emphasis may be put on either end of the continuum but they continue to support each other and are necessary for the success of each other.

Inquiry
Making

Ways have to be found to scaffold students’ learning of Making and Inquiry skills both within a unit of study and across grades and disciplines in a school.

Key Readings
Gerstein, J. (2013). Is It Project-Based Learning, Maker Education or Just Projects? http://usergeneratededucation.wordpress.com/2013/10/22/is-it-project-based-learning-maker-education-or-just-projects/

Further Information
This poster and further information is available at http://www.theibsc.org/
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