Medieval Making in *Minecraft*

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Introduction

My research topic is derived from seeking to explore the potential of Making in a subject area – History – that is not traditionally associated with Making. I have approached Making through the lens of Project Based Learning, informed by the work of the Buck Institute of Education. Whilst the Maker Movement and PBL are not identical, they share a philosophy of giving the student CHOICE over their learning and attempt to make learning AUTHENTIC.

I have also been influenced by the work of Gary Stager (*Invent to Learn*), Jackie Gerstein (usergeneratededucation.wordpress.com), and Kristin Fontichiaro (University of Michigan). These authors helped me to understand Making as a philosophy rather than a strict process. This project centres on the use of the popular game *Minecraft* as a platform for making medieval castles with Year 7 (aged 12-13) students as part of the Australian History curriculum.

The Research Question

What is the effect of using *Minecraft* on student engagement and historical understanding in Grade 7 history?

Research Context

Barker College is a large independent school located in Hornsby on Sydney's upper-North Shore. It is a boys' school from K – 9 and a coeducational school in the senior years. It is very well resourced in terms of technology and organises its curriculum around the Harvard Project Zero Teaching for Understanding Framework.

Participants

The participants in this project were the boys in my Grade 7 History class in 2014.

The Research Action

The research action was the building of a medieval castle using *Minecraft*. This was completed in groups of 5 students working in a building zone within a creative (unlimited resources) world. This action took place over 3 x 1 hour lessons.

Data Collection

Data were collected using the following methods:

- Pre and post tests to collect student knowledge about medieval castles
- Exit cards at the end of each building session to allow students to record new learning, new questions and their feelings during the lesson
- Teacher observations during the action
- Video interviews with students and student-led video tours of their completed castle

Data Analysis

I was looking for TWO things in my data, evidence of student ENGAGEMENT and evidence of HISTORICAL KNOWLEDGE. This was achieved in the following ways:

Grouping exit card responses under EMOTION based headings: Engagement, Collaboration, Fun, Frustration. I was looking for the degree of similar responses and any differences over the three lessons of the research action.

Transcribing interviews and identifying student comments that related to engagement and historical understanding.

Whilst evidence of engagement was clear, evidence of historical understanding was harder to identify and this became a focus of my analysis, firstly acknowledging this factor and then trying to explain why student understanding that I was able to observe in students was not so readily apparent in the data. I tried to develop this as a theme of my research; why the Maker philosophy might change the way that student understanding is evident in History.

Key Findings and Discussion

'Building the castle gave me an appreciation of space and how hard castles would have been to build'

- It is possible to use *Minecraft* as part of a Maker philosophy in the History classroom and the strong suggestion is that this leads to increased student engagement. Fun, Collaboration and Enjoyment were dominant themes in the EXIT CARD DATA.
- Whilst historical understanding has been harder to determine, there is enough evidence to suggest that the *Minecraft* project enhanced the historical understanding of many participants. FIELD NOTES reveal students asking excellent questions, referring to specific medieval terms.
- Application of a Maker philosophy seems to change the way that students learn. This is clear from the literature which identifies Making as informal learning. This was evident from my observations throughout the research action.
- Making creates an expectation of experimentation, iteration and precision that can be lacking in more traditional classroom work. My suggestion is that this stems from engagement and creates the ground for deeper understanding.
- Making changed the normal classroom dynamic. Some students were transformed in terms of their engagement, others were suspicious if this was 'real' learning. The behavior issues of a few students disappeared for the duration of the build.

'The great thing about the building experience is that it puts you there'

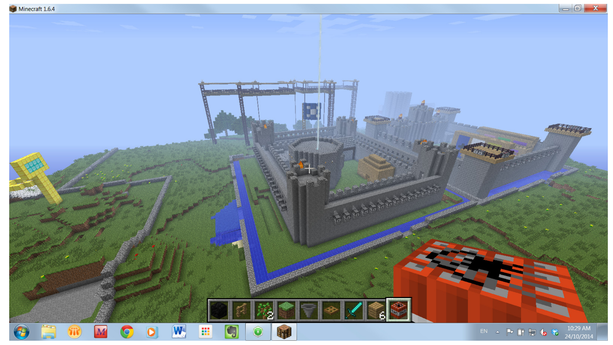
Conclusions

Narrow definitions of Making will inhibit its usefulness in school settings. **It is best to view Making as a philosophy rather than a method.**

Like most educational change, Making would be best implemented across a grade level and across multiple subjects. Otherwise, the Making approach can be seen as novel and detached from 'real' learning.

The serious implementation of a Maker philosophy requires complementary changes that challenge traditional approach to student learning, grading and assessment. Making allows students to express learning in non-traditional and school structures would need to support this.

Making would coincide well with ideas such as Project-Based Learning, Formative assessment and Mindset.



Key Readings

Gerstein, J. (2014, September 7). *The Intersection of Growth Mindset and Maker Education.* http://usergeneratededucation.wordpress.com/tag/maker-education/

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Martinez, S. L., & Stager, G. (2013). *Invent to learn: Making, tinkering, and engineering in the classroom*. Torrance, CA: Constructing Modern Knowledge Press.

Stringer, E. T. (2004). *Action research in education*. Upper Saddle River, NJ: Pearson/Merrill/Prentice Hall

Further Information

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

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