Using Minecraft to Reconstruct and Roleplay Local History: Intersubjectivity, Temporality, and Tension

Anders I. Mørch\textsuperscript{1}, Carl Sebastian Eielsen\textsuperscript{1}, Louise Mifsud\textsuperscript{2}

\textsuperscript{1}Dept. of Education, University of Oslo, Norway
\textsuperscript{2}Dept. of Primary and Secondary Teacher Education, Oslo Metropolitan University, Norway
Research question

• How are generic and domain-specific skills intertwined in pupils’ use of Minecraft in a seventh-grade social-study (local-history) project?
  – Generic skills: Information seeking, collaboration, creativity
  – Domain-specific skills: Social science, history, local history
    • History topic: Industrial revolution
    • Local history: The study of a particular geographic area
Artifacts in CSCL

- «Artifacts are central to CSCL. In a typical CSCL setting, artifacts can play multiple pivotal roles» (Stahl, Ludvigsen & Law, 2014)

- We have investigated two types of artifacts as an interdependent dynamic developmental process
  - Visual artifacts: Minecraft buildings
    - Provide the context (e.g. mediate)
  - Verbal artifacts: Group interactions (talking)
    - Contributes to the evolving context
Mead’s theory of communication

• Inspired by G.H. Mead’s theory of communication and collective consciousness
  – “During reconstruction, the past arises in memories and is represented in visual images” (Mead, 1929, p. 235).

• In our framework:
  – *Collective consciousness* is a dynamic developmental process of intersubjectivity, supported by visual design
  – *Tension* is the driving force of expanding intersubjectivity
  – Tensions are connected with *temporal events* (past, present, future) and the *intertwining* domain-specific and generic skills’ practices
Minecraft supports the design of visual structures with tools and building blocks

DODE = Domain-Oriented Design Environment (Fischer, 1994)
# A teaching model for Minecraft

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Adopted from Mørch, Mifsud & Eie (2019)
Data collection and analysis

• Participants and length of study
  – Three 7th grade classes (12-13 year old) - not new to MEE
  – Topic: 19th century industrialization (preparation together with teachers and local historians)

• Data collection
  – Video observation (3 groups over one day)
  – Interview (4 groups)

• Data analysis
  – Thematic analysis
  – Interaction analysis
Data extracts of Group 2

**Phase 1 (introduction)**

1. **Student teacher**: Do you know where the Sawmill Factory was located? Is it here in ((City A))?
2. **Lisa**: It's in ((Town B)).
3. **Student teacher**: In ((Town B))?
4. **Lisa**: Yes.

**Phase 2 (reconstruction)**

14. **Lisa**: But we were going to have a wooden floor, didn't we?
15. **Gro**: Yes, I’ll find it.
16. **Lisa**: What type of wood?
17. **Gro**: Oak wood!
18. **Lisa**: ((Laughs)) It ends with Kaare dying (..). ((Starts reading the script from OneNote document.)) It starts when he arrives at work for the first time. The day after, he comes to work as usual and does not sense any danger. He goes to the cutting machine to start his work (..). Ouch (..)! What happened (..)? I cut off my hand (..)
19. **Jon**: If you take the windows in the middle (..) assuming we have six spaces in between.
20. **Geir**: Six spaces?
21. **Jon**: It’s not that many windows in the picture ((looks at the picture of the building))?
22. **Jon**: If you take the windows in the middle (..) assuming we have six spaces in between.

**Phase 3 (transformation)**

39. **Lisa**: ((Laughs)) It ends with Kaare dying (..). ((Starts reading the script from OneNote document.)) It starts when he arrives at work for the first time. The day after, he comes to work as usual and does not sense any danger. He goes to the cutting machine to start his work (..). Ouch (..)! What happened (..)? I cut off my hand (..)
Minecraft building of Group 2

Discrepancy in number of windows

Minecraft building v.1

Minecraft building v.2

Historical picture

Discrepancy in number of windows

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RQ1: Tensions in temporality and contextual reconstruction

- Different techniques of information seeking to find information about the historical building
  - Many of the buildings are still in use today albeit in a new function
- Past is reconstructed in the present through visual imagery and integrated in the evolving social consciousness as historical context. It is also compatible with the notion of “history in the present” and “historical and cultural knowledge embedded in artifacts”.

Norway’s largest Shopping mall used to be Steel factory
RQ2: Setting and releasing tensions

• Tensions surfaced in the intersection of generic (domain general) and domain-specific practices
  – related to using Minecraft as a domain-oriented design environment in CSCL (e.g. choosing blocks)
  – pupils’ emphasis on finding good enough information (e.g. pictures) as referents for design

• Humor (creativity) was one way of releasing tension for the groups.
Conclusions

• Students were focused on the task
  – Elements of “historical correctness” is visible
  – Elements of play and humor are visible

• Subject specific topics were a focal point of discussion during the video presentations
  – Teachers, researchers, and local historians participated

• The teaching model acts
  – As a guide for combining domain specific and generic skills
  – As a framework for adhering to allotted timeframe