

Developing Educational Technologies: The continuous Improvement of Talkwall

Anja Amundrud
University of Oslo, Norway

Several studies have demonstrated that the use of technologies in educational activities can be beneficial, for example to provide an environment for knowledge building (Scardamalia, 2014), or to enhance new forms of dialogue (Rasmussen & Ludvigsen, 2010). There is however, a need to integrate these technologies into the teacher's practices and task design (Dillenbourg, Järvelä, & Fisher, 2009). Research has also shown the importance of establishing norms that are defined and regulated in the context of the classroom to productively handle the presence of technologies (Kleine-Staarman, 2009; Rasmussen, Lund, & Smørðal, 2012). Educational technologies are constantly changing, thus the teaching resources required to effectively make use of these technologies needs to undergo continuous improvement as well. This is a complex and continued process that requires more research.

Research focus

This poster presents a PhD-project that seeks to explore the ongoing teacher-researcher partnership with the intention to continuously improve and develop both the digital tool, Talkwall and the resources needed to integrate it effectively in educational settings.

[Screenshot of Talkwall]

Talkwall draws on the microblogging approach of using only short messages to communicate, using this to encourage students to engage in learning and share their developing ideas, in turn, promoting positive dialogic interactions.

Research design

The PhD-project is part of the research project Digital Dialogues Across the Curriculum (DIDIAC), which is a collaboration between the University of Oslo and the University of Cambridge. Through a design-based approach, researchers are working with teachers as partners to develop a dialogic learning culture in classrooms in Norway and England, and to experiment with Talkwall as a means to support this development.

[Illustration of Talkwall in an educational environment]

Short written texts can be produced either collectively or individually and can later be shared on a digital device. Text can be sorted using hashtags (#) to make it easier for students to follow specific topics or selected concepts.



[Figure illustrating the design process]



This figure represents the teacher-researcher partnership over one year. Four workshops, three lessons of each teacher with their classes (teachers N=21, students N= 373) and meetings with the teachers to discuss their experience between the lessons. These were all video recorded. The teachers were encouraged to use existing recourses from the 'thinking together' material (Mercer & Littleton, 2007) and to experiment with Talkwall as a means to support the development of a dialogic classroom culture. The teachers were introduced to the rationale behind a dialogic pedagogy and how to develop and sustain the communicative norms. The workshops also included group discussions and practical exercises.

The redesign of Talkwall has focused on

1. Integrating resources for teachers' continuous development of their dialogic practices within the tool.

2. Support for sharing educational plans that address how Talkwall can be aligned with dialogic intentions
3. Embedding net based resources in Talkwall as initiation and resources for talk
4. Tighter integration with school admin systems, to allow teachers to share Talkwalls and educational plans with colleagues.

Next step

The teacher-researcher partnership has led to several changes in both the design of Talkwall and the recourses to support the educational use. A new version of Talkwall based on experiences and feedback from workshops, interviews and research lessons is just released. Further investigation of the collected data material in addition to an analysis of both Talkwall and the recourses will provide deeper insight to the design process and potentially lead to the next improvement of Talkwall and the supporting resources.

References

- Dillenbourg, P., Järvelä, S., & Fischer, F. (2009). The evolution of research on computer-supported collaborative learning. In *Technology-enhanced learning* (pp. 3-19). Springer, Dordrecht.
- Kleine Staarman, J. (2009). The joint negotiation of ground rules: establishing a shared collaborative practice with new classroom technology. *Language and Education*, 1(23), 79-95.
- Mercer, N., & Littleton, K. (2007). *Dialogue and the development of children's thinking: A sociocultural approach*. Routledge.
- Rasmussen, I., & Ludvigsen, S. (2010). Learning with computer tools and environments: A sociocultural perspective. *International handbook of psychology in education*, 399-435.
- Rasmussen, I., Lund, A., & Smørdal, O. (2012). Visualisation of Trajectories of Participation in a Wiki: A Basis for Feedback and Assessment? *Nordic Journal of Digital Literacy*, 1/2012, 21- 35.
- Scardamalia, M., & Bereiter, C. (2014). Knowledge building and knowledge creation: Theory, pedagogy, and technology. *Cambridge handbook of the learning sciences*, 397-417.