

Ma, L., Tan, S., Kamsan, M.A.B., & Teo, C-L. (2019). Enhancing Epistemic Agency in a Knowledge Building Community: A Two-Year Design Study. Presentation at the *2019 Knowledge Building Summer Institute: Knowledge Building Practices and Technology for Global Hubs of Innovation*. March 12-13, 2019, Singapore.

Enhancing Epistemic Agency in a Knowledge Building Community: A Two-Year Design Study

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One of the core aims of Knowledge Building is to move students toward higher levels of agency (Scardamalia & Bereiter, 1991). The Knowledge Building teacher fosters epistemic agency through continually adjusting the relations between ideas, students, and themselves in the classroom so that students ultimately have control over their Knowledge Building (e.g., Teo, 2014; Zhang, Scardamalia, Reeve, & Messina, 2009).

This study follows the evolution of a Knowledge Building community over two years to explore changes in markers of knowledge-creating dynamics, namely community knowledge advancement, design mode discourse, and intentional learning (Scardamalia & Bereiter, 2010). Socio-semantic analysis in KBDeX (Oshima, Oshima, & Matsuzawa, 2012) reveal the emergence of rotating leadership in both years, with students assuming increasing levels of collective responsibility for knowledge advancement. In Year 1, 27 of 34 students emerged as leaders. In Year 2, 33 of 37 students emerged as leaders. Qualitative analysis of student notes in Knowledge Forum (KF; Scardamalia, 2004) reveal that students asked more fact-seeking questions in Year 1 and more explanation-seeking questions in Year 2. Change scores reveal a 70% decrease in fact-seeking questions and an 84% increase in explanation-seeking questions across the two years. While the most frequently used KF scaffolds across both years was “My idea is” and “I need to understand”, the least frequent KF scaffolds were “This idea does not explain” and “A better idea”. Change scores reveal an 11% increase in “This idea does not explain” and a 195% increase in “A better idea”, pointing to students’ growing proficiency in working with ideas in design mode, and by extension, their growing understanding that “the job of a theory is to explain,... not just a guess at the truth” (Scardamalia & Bereiter, 2017, 70). Additionally, student interviews reveal shifts in their learning attitudes, including a greater appreciation for collaborating with peers, creating useful ideas, building on their peers’ ideas, examining ideas from different perspectives, and ultimately, directing the path of their own learning.

Pedagogical implications of this work are discussed within the context of declining trends in students’ motivation (Gottfried, Fleming, & Gottfried, 2001) and intellectual engagement (Dunleavy, Milton, & Willms, 2012) in schools. We believe that fostering students’ epistemic agency through Knowledge Building – community knowledge advancement, design mode discourse, and intentional learning – has the potential to reverse these trends.