I created their second digital story for just this reason, stating that their first digital story only addressed one aspect of sustainability whilst the second covered all three. However, it is unclear whether this is development of knowledge through collective engagement with a creative act, or whether this was knowledge they already held that they used to develop a more creative artefact.

"7.1 I would argue that there may be evidence of both within the one group's work and it is essential to examine the discussions between students to help illuminate this process of moving from one to the other. It is also worth considering how much of this type was driven by the technology and how much by collaborative knowledge construction.

8. To explore the complex interconnected nature of creativity, collaboration, and learning, it is also essential to understand the wider context in more detail. Real-world (non-lab-based) learning environments are messy places for research. It is this complexity that the educational researcher must relish if we are to develop the initial insights gained from this study further. Case studies are particularly powerful for developing an understanding of phenomena under study as they provide a rich description that researchers and educators use to inform their understanding of the implications of the research in their own contexts.

9. One aspect of this study that remains unclear is the content and timing of the taught component of the module. There can be no assumptions as to what concepts were covered, what examples were given or even the mode of instruction. There can also be no assumptions made as to the level of student engagement in this more traditional section of the module, nor what they have learned from it. In developing this study, it would be valuable to consider whether the discussions that occurred as part of the workshops would have usually taken place in seminars (with no knowledge artefact created) and if so, would the same level of conceptual development have been achieved? This leaves us with some important questions: What is the role of existing knowledge in any apparently creative process or final artefact and does this moderate whether or not it is actually creative? Finally, considering the research question that is the focus of this study: Are "new" ideas and understandings generated and to what extent are they new at a group and individual level?

To the work of Daskolia, Kynigos and Makri demonstrates one way in which educators can support their students to develop these new understandings through constructionist learning activities, simultaneously providing researchers with several routes to explore the complex interconnected nature of creativity, collaboration and learning.

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RECEIVED: 8 JUNE 2015
ACCEPTED: 18 JUNE 2015

Tool Selection and Its Impact on Collaborative Learning
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> Upshot - Daskolia, Kynigos and Makri’s article offers us a view into potential applications of constructionist learning theory to help students conceive of and collaborate on solutions to today’s complex problems. This work in many ways parallels the efforts of those investigating systems thinking and highlights the importance of digital production in that process. While many efforts rely on simulations and models, the authors place centrally the role of digital production in understanding complexity. This, in turn, calls our attention to the affordances and limitations of our current tools for facilitating learning and collaboration, and ultimately to the need for new tools.

1.1 The expansive and often vague conception of urban sustainability is a particularly ripe area for exploration using constructionist means, given that constructionist learning is at its most efficacious when learners are brought together in a social context to create and share a personally meaningful text (cf. Papert 1980; Papert & Harel 1991) as well as illuminate “powerful ideas” such as sustainability and complex systems (Papert 1980). The approach explored in Maria Daskolia, Chronis Kynigos and Katerina Makri’s target article sits well at this intersection and helps expand the constructionist literature beyond the typical domains of science, computer science, and mathematics. In particular, their study helps us envision how this lens on learning and engaging with the world can shape our understanding of large, complex societally issues from within the domain of digital storytelling.

2. Urban sustainability is a particularly powerful idea to explore, as it necessitates the awareness of and synchronicity between communicating parts. In this article the authors reference the three pillars that support most urban sustainability initiatives - economic, ecological, and societal concerns - and appear to challenge the students in their study not only to consider the interrelationships between these factors when collaborating on a solution to urban challenges, but also the most elegant way to represent these solutions in a short, multimedia narrative. A running thread through the group projects in this article, which included narratives about pollution and the environment, urbanization and public spaces, and the tension between eco- historical preservation and economic growth, concerned the use of microcosm to symbolize the intersections of large, vast systems. Each group seemed to struggle at first to devise a project that acted as personal story, “issues” piece, and call to action. And, yet it was very clear in the end that each of these digital stories demonstrated an understanding that the circumstances of the individuals in their communities are shaped and influenced by greater systems in motion.

3. An understanding of how systems like those depicted in these group projects work offers students a powerful lens for seeing, engaging, and changing their world (Jacobson & Wilensky 2006). There are numerous well-articulated approaches to teaching systems thinking in the classroom,
Tool Selection and Its Impact on Collaborative Learning

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Abstract: This study examines the impact of tool selection on collaborative learning. The research design includes a mixed-methods study with qualitative and quantitative data collection. The study involved 80 participants, divided into 20 teams, who were asked to solve a problem in a collaborative learning environment. The participants were divided into two groups: one group used a tool that is specifically designed for collaborative learning, while the other group used a tool that is not specifically designed for collaboration. The results showed that the group using the collaboration-specific tool had a higher level of engagement and better problem-solving skills. This suggests that the choice of tools can significantly affect the effectiveness of collaborative learning.

Conclusion
This study highlights the importance of carefully selecting tools for collaborative learning. The findings suggest that tools designed for collaboration can enhance student engagement and improve problem-solving skills. Educators should consider the specific needs of their students and select tools that are tailored to their learning goals. Future research should explore the long-term effects of tool selection on collaborative learning and consider the needs of different student populations.
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