Design Thinking in a Technology Mediated Discourse: Studying the Impact of Students Purposeful Learning

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Abstract

Designing is concerned with creating change and is undertaken in many different ways to fit solutions to the problem context. Design Thinking, as a unique way of understanding and approach solving problems, involves planning with meaningful intention and purpose. Broadly, it engages students in solving problems modeled as closely as possible on problems they will actually encountered in their professional practice (Barrows, 1985). To better invigorate ideation processes, connect and rise-above ideas comprises rational thought processes undertaken in knowledge building, which emphasize on conceptual artifacts (theories, designs, plans histories, etc) as product tools and objects of inquiry (Scardamalia & Bereiter, 2003). Within a holistic fabric of critical and creative thinking processes that also involves intuitive design responses in the realm of scientific facts and ideas, design activities such as model building, conducting experiments, and producing design plans are carried out in meaningfully identified needs, problems and wants calling for solutions that can be realised through manufactured artefacts.

The solutions may arrive through diverse methods where students demonstrated a special motivation, holistic involvement and abilities to harness resources. They learnt to generate ideas, to be divergent in their thinking and knew what to connect and how to connect, bringing ideas to fruition. The Knowledge Building environment provides flexible and coordination for sustained and creative work with ideas to support conscious efforts in research, investigation and on-going evaluation of information for decision made.

The purpose of this paper is to discuss a technology-mediated discourse in design and technology education where immersion in knowledge building leads to a spin-off discoveries. We will present the context, methods, findings and pedagogical approach to foster self-directed and collaborative learning which aim to develop the depth of discourse in Design Thinking. The emphasis will be on discussing how technology-mediated discourse has an impact for active monitoring, continual creation of ideas and advancement of group's knowledge. In conclusion, we offer some reflections in designing and assessing knowledge building to enhance the Design Thinking process and examining the socio-cultural context for coursework innovation that has given direction to our ongoing research.