Science Concepts, Technology, and Higher Order Thinking Skills- What's the Connection?

Margarete Juliana, Research Center for Educational Technology, USA

Abstract: Using the scientific process involves ample opportunity for complex higher-level thinking. Integrating technology into the unit can support and enhance these same critical thinking skills. This qualitative study was designed to examine students’ understanding of a science problem involving human habitation of wetlands, woodlands, and grasslands. Four fourth grade students and their teacher were observed during a six-week period in which they spent two hours a day in a technology immersed classroom. Researchers observed how students used technology to proceed through defining, investigating, and drawing conclusions about the problem. Student interviews revealed how useful they felt technology had been for completing each stage of the process. Teacher interviews revealed how she believed technology was supporting and enhancing students’ complex thinking. For the purposes of this study, the scientific process has been limited to the following four main stages: identify the problem; collect information; analyze information; and draw/present conclusions.