Promoting Scientific Inquiry Through Student-Centered Activities and Mobile Learning Technology at a Wildlife Center

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Abstract: The educational sector has been emphasizing the adoption of engaging student-centered instructional approaches in order to improve learning outcomes. Technology-enhanced learning environments provide levels of complexity that promote inquiry, support critical thinking, and deeper understandings of phenomena. Effective technology-enhanced curriculum amalgamates best practices in the design and development of instructional technologies with effective instructional strategies that are grounded in learning theories. The purpose of this presentation is to demonstrate how a mobile learning application supports the scientific inquiry process for elementary children. An iPad application was developed to integrate with a content-driven website that provides teachers and students with information and instruction on the nature of science and scientific inquiry. For the purpose of this project scientific inquiry is, simply stated, actively pursuing knowledge and constructing meaning of natural phenomena through observations, experimentation, making predictions, argumentation, and reasoning. Students use the iPad to make animal and habitat observations at a wildlife center. The observation data is connected to a database, which students access through a website, with all observations made by their peers and the general public. Students use the data to pose research questions and investigate natural phenomena that ultimately will aid, through critical thinking and problem solving, in the development of their scientific knowledge.