

Presentation Title: Web-Based Learning for Special Learners

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### Abstract

Educators have increased the use of technology to enhance the competence of students with learning disabilities. Emerging research findings validate the benefits of technology in reading, writing, and math facts. Nevertheless, there is little research in science, where students require extensive supports. This research studied whether technology can (1) offer alternative ways to acquire new science concepts, and (2) provide guidance to systematically conduct scientific inquiry. Two junior high school students with learning disabilities carried out scientific inquiry in a computer-based learning environment. The environment consists of an online wolf management curriculum, developed by the Web-based Inquiry Science Environment (WISE) project, in conjunction with a speech synthesizer program, CAST eReader. The wolf curriculum provides a wealth of evidence surrounding the wolf controversy and scaffoldings to systematically conduct inquiry. CAST eReader, on the other hand, serve as a reading prosthesis for students. Data included semi-structured interviews conducted before and after each investigation, videotapes of computer screen captured during the inquiry process, students' inquiry notes and the researcher's observation. Although students with learning disabilities have difficulties in processing written information and applying flexible strategies, they benefit from the assistance of speech synthesizer and scaffoldings of the wolf curriculum. With the technology, students feel empowered to learn and motivated to put effort into the task. However, the integrated computer-based learning environment does not promote scientific reasoning and independent inquiry of students with learning disabilities. The current goal of the computer-based learning environment is to ignite and maintain student interests in learning and anchor instructional activities around demanding but personally relevant problems that link to the topic under study. The future goal is to use technology to enable students with learning disabilities accessing instructional activities, such as cooperative learning, to the same degree as their peers and to circumvent disability related limitations. They may engage in collaboration and dialoguing in inclusive classrooms with pertinent integration of technology.