

David Feldon Awarded \$1.7M Grant from Institute of Education Sciences to Study Computational Thinking in 7th and 8th Grade Students

12/02/2022



Feldon's research seeks to examine computational thinking outside of traditional concepts like coding.

David Feldon, professor of Instructional Technology and Learning Sciences at Utah State University, recently received a \$1.7 million grant from the Institute of Education Sciences to research ways to assess students' computational thinking outside of knowledge of coding, mathematics, or capabilities such as memory span or spatial reasoning.

"Many facets of computational thinking are not clearly defined or understood, but computational thinking has emerged as a major topic of interest in K-12 education," said Feldon. "Even outside of coding or computer science, researchers and teachers are recognizing the growing importance of helping students develop this competency."

Feldon's study will focus on 7th and 8th graders in four diverse Utah school districts. Researchers will collect individual data on students' computational thinking skills, spatial and fluid reasoning, memory span, algebraic aptitude, and scientific reasoning. They will also collect data from classrooms that are intentionally integrating computational thinking into their curriculum to examine the effects of increased opportunities to learn computational thinking.

Researchers hope to create a better understanding of computational thinking itself and the basic cognitive skills that may underlie or support it. This will inform a number of next steps relevant for educational practice, including the development of more effective and valid computational thinking assessments and more effective curriculum and instruction.

"Currently, it is not known to what extent computational thinking can be meaningfully assessed outside of a coding environment," Feldon explained. "Developing better assessment methods will help schools measure the effectiveness of their curriculum in developing computational thinking skills."