Since the 1980s, scholars have had visions about how computers can change how we think and learn and may support more engaging learning processes. Recently many countries have extended their formal school systems to teach students about computational thinking, with the aim to support children in mastering digital materials, becoming digital producers, and using technology to develop the ability to use their creativity and develop problem-based digital projects. One of the questions in this new area of formal educational is whether acquiring computational thinking (CT) skills should be a goal in itself—that is, a new subject matter in the curriculum—or whether CT should become part of cross-disciplinary projects in school. The basis for the current experiment is a longitudinal (four years), design-based research experiment, where CT was used as one of the means to reach learning goals in cross-disciplinary academic subjects. In the current part of the experiment, adult high school students (K–11) created digital learning games using the game design tool Scratch. The purpose was to teach their classmates about specific learning goals in geography, chemistry, biology, and social studies within their digital learnings games while they themselves learned about these subject matters through the learning game creation process. The findings were that game design and CT could be used as means to reach learning goals and spark reflections about cross-disciplinary academic subject matter and that the learning game construction process involved the students’ considerations about four central areas and processes within these areas. Also, as the students transformed their games from a vision to a concept and into a concrete digital object, they were challenged to become innovative and creative and were supported in their thinking and learning processes, developing knowledge about problem-based work and CT competencies.

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