

Zoombinis: The Full Development Implementation Research Study of a Computational Thinking Game for Upper Elementary and Middle School Learners

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Website: <http://edge.terc.com/edge/about/projects/>

This Full Design and Development project for the Implementation Research Strand of DRK12 is studying the educational impact of the re-release of the award-winning educational computer game: *The Logical Journey of the Zoombinis*. In the 1990s, Zoombinis was a popular computer game for home and school focusing on computational thinking (CT) and TERC has now re-developed the game as a tablet version, much to the delight of an enthusiastic audience of educators and general public. This re-development is also enabling researchers to infuse the game with data logging to watch how players build implicit (tacit or unexpressed) knowledge about CT. The Zoombinis implementation research study uses educational data mining methods to analyze the data logs to study implicit game-based learning of CT. The research include surveys, observations, and case studies to understand how that implicit learning can be leveraged by educators to improve explicit (expressed or formalized) learning of CT and how a popular commercial product like Zoombinis can be used for high impact and equitable improvement of learning in the classroom.