

Abstract Submitted
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Building a model of smart technology integration starting in the secondary STEM classroom AHMAD ZAATARI, UT grad student and entrepreneur in EdTech — How do we better prepare secondary students for STEM professions by more effectively integrating compelling technology? The purpose of this exploratory research study is to assess the obstacles and accelerators to technology adoption in the STEM classroom. Structured interviews are being conducted on ISD administrators, school principals, superintendents, teachers, parents, and students; thematic analysis will be used to abstract prototypical use cases for each role to determine how to facilitate new technology in the classroom. An agent-based model of education change technology will then be constructed to document best practices from idea to implementation. Failure will be defined as the eventual rejection of technology/change initiatives at the various stages of adoption. The research will investigate why failure occurred: pressure exertion or mandates, perceived or true complexity, the use of piloting to test, and lack of observable benefits. The paper will answer the following questions: 1 How can miniature modular data collection sensors be extremely cost effective and the core of an ecosystem of multi-subject researchbased curricula that engage students in selfguided learning? 2 What benefits should such smart technology initiatives provide to create mass adoption in STEM education?

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