Chapter 13

Technologies of Resistance:
Facilitating Students' 21st Century Thinking Using Material Tools

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ABSTRACT

A key paradox of education in the 21st century is the simultaneous focus on standards, accountability, and assessments, alongside the call for schools to prepare students for the ever-changing digital world. Educational technology is often touted as the solution to all the problems that supposedly plague education. Teachers, though, often resist educational technologies for good reason, but resistance can lead to student not having opportunities to engage in 21st century literacies. The authors propose that teachers can tap into material technologies—like sticky notes, chart paper, markers, scissors, and tape—and frame those multimodal compositions as 21st century thinking. The chapter offers extensive examples of material, multimodal student compositions, and descriptions of the instructional practices that supported their creation, all from middle and high school classrooms that were under heavy pressure to teach toward success on the state standardized test. The examples are organized around the concepts of self-representation, academic literacies, and artistic expression.

INTRODUCTION

Almost 20 years into the 21st century, schools seem to focus on either test scores or educational technology. An odd pairing as no standardized test that the authors have seen would actually support and students in learning how to interact with and use digital technologies in purposeful ways. So the key paradox of education in the 21st century is the focus on standards, accountability, and the assessments that follow, with the simultaneous call for schools to prepare students for the changed/changing digital world. As a parent, Ann has some experience with this push to utilize educational technology in schools,

as scholars, Ann and Anna have seen teachers leverage material tools to engage students in those elusive 21st century literacies without having to buy into the educational technology racket. In this chapter, the authors present a reflection of resistance that troubles the widespread use of Istation, a proprietary education technology targeted at kindergarten–eighth grade students, including Ann's Then, the authors offer counter-examples of classroom practices that developed students' 21st century literacies, while also resisting the insistence that the magic, metal boxes will fix all that ails education.

PARENTING WITH A PHD IN AN AGE OF EDUCATIONAL TECHNOLOGY

Seesaw, iStation, and ABCya! are some of the proprietary digital technologies that my children used during their first-grade year (not a copy editing error, I have twins). I asked a lot of questions about these and other technologies. Their teachers could usually answer my questions about privacy, personal data, and purposefulness because they work in a school that supports thoughtful integration of digital technologies. Occasionally, when the answers to my questions lead me to wonder about the educational technology's purposefulness, I respectfully resisted. But resistance is hard because there is great pressure—from other parents, administrators, districts, the public, the markets—to incorporate educational technology into the classroom. The state, feeling this pressure, finds ways of spending taxpayer money on digital technologies. Educational technology companies also spend a lot of money—on marketing alongside development—to make products that promise the moon. Students will learn to read! Students will explore 21st century technologies! Students will be prepared for the new economy! This pressure and the money create an atmosphere in which educational technology must be in the classroom for the classroom to be considered good. To step back from this chorus of voices and consider the larger purposes of the technology, I ask questions: Are my children creating things meaningful to them? Are they learning academic skills? And, are they participating in a community with these technologies?

What follows is a short story of my experience with two different digital education technologies—Istation and Seesaw—that both of my children, in different classes, used. One I resisted, the other I embraced. The story explores my reasoning, which is necessarily informed by my knowledge of and scholarship around literacy. Istation—not affiliated with Apple, despite the name—is a proprietary, web-based educational program that fits well into the triumphal narrative of education technology. Istation's use is widespread in Texas, where the state funds subscriptions for third through eighth graders. My children used the literacy portion of Istation three times a week for their first-grade year. The interface consists mostly of game-like modules where children combine letters to make words or match letters with sounds, generally practicing isolated literacy skills. Their teachers seemed to have resisted the technology by minimizing the student's engagement with it. This theme of resistance to Istation was confirmed when speaking with teacher friends, most of whom also questioned Istation and reported that it ate up class time, while failing to support children in learning to read. And my anecdotal experience is supported by the findings from a legislative report on the use of Istation in Texas schools: "With few exceptions, no significant differences emerged among students from different groups in terms of relationships between use of Istation and STAAR-Reading performance" (Garland, Shields, Booth, Shaw, & Samii-Shore, 2015, p. 5). In this way, the program fails on two counts: my children were not creating anything, and they were not learning academic skills.

While my children compared it to a videogame, this cycle of short games and tests did not seem particularly supportive of the complex thinking hailed as one of the key competencies for the 21st century

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