Chapter 4

Mobile Makerspace Carts: A Practical Model to Transcend Access and Space

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ABSTRACT

This chapter provides background into the maker movement, potential strategies for integrating the maker movement into educational environments, and a case study of a mobile makerspace model that leverages carts with small portable devices and free/open-source apps/software to enable equitable makerspace experiences to learning spaces in diverse areas and contexts. Acknowledging the vast options for creating makerspace experiences, this chapter suggests that space itself can be transcended by focusing on immediately practical ways to provide access (i.e. small thematic mobile makerspace carts that can be easily transported), provide activities and tools that address the unique interests of the participants (i.e. asking participant stakeholders what their goals and aspirations are), and establish a learning culture that empowers maker mindsets (i.e. structuring activities with constraints that enable, engaging university students in service-learning projects).
INTRODUCTION

As a first-year, secondary art teacher, I had no physical classroom space to call my own. I “floated” from room to room, class period to class period, with a rolling cart that was filled with all of the materials I needed for the day. I quickly realized that I could not fit everything onto one rolling cart and knew that I had to make a change. So I made a series of thematic rolling carts that had drawing tools, sculpture tools, mixed media tools, etc. Students would excitedly examine the cart at the beginning of class each day asking, “what are we going to make today?”

Though I did not have ownership of a physical space, I was able to empower myself to transcend space and access by bringing in the thematic tools I needed for the day, and I subsequently transformed the physical spaces I entered to suit the needs of my learning culture. In a time before the availability of laptop carts or computers on wheels (COWS), the notion of rolling materials across campus between class periods was not very common; however, I found it was an essential approach to provide my students access to diverse tools and materials needed for their creative activities.

This chapter describes how the concept of mobile thematic carts used out of necessity inspired a concept of mobility that informs my practice today by providing the opportunity to bring mobile makerspaces to classrooms in diverse areas and contexts. In doing so, the mobile makerspace carts transcend space by providing participants access to tools that align with their creative interests and spark a learning culture situated in a maker mindset.

POTENTIAL TO EMPOWER LEARNERS THROUGH THE DIY MAKER MOVEMENT CULTURE AND MINDSET

Inspired by the centuries-old handmade traditions of craftsmen/women from around the world, the modern maker movement and the do-it-yourself (DIY) learning culture are gaining traction throughout the world (e.g., Maker Faires, Maker Camps, library makerspaces, Etsy, Instructables, Hackaday). The education community is taking notice as the maker movement encourages “makers” to leverage a variety of means to create personally meaningful artifacts, including unique combinations of no-tech, low-tech, high-tech, paper, textiles, wood, metals, etc., in order to communicate a vision or express voice. In The Maker Movement Manifesto, Hatch (2014) reminds us that this time-honored practice is actually embedded within all cultures because “making is fundamental to what it means to be human” (p. 1).

But making isn’t so much about the tools as much as it is about the mindset. Dougherty (2013), the crowned “father” of the maker movement resurgence, ac-
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