Chapter 3.23
"Neomillennial" Learning Styles Propagated by Wireless Handheld Devices

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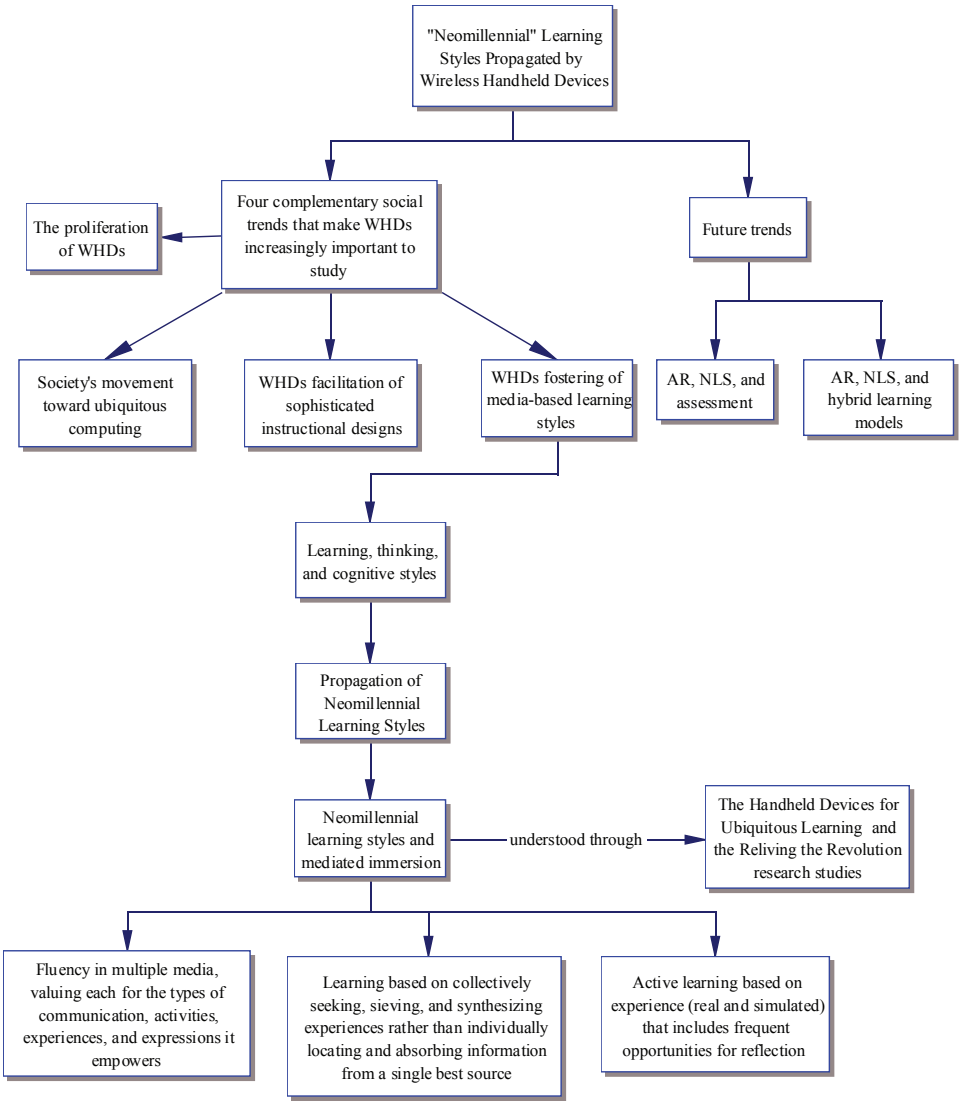
ABSTRACT

As the digital-aged learners of today prepare for their post-classroom lives, educational experiences within classrooms and outside of schools should reflect advances both in interactive media and in the learning sciences. Two recent research projects that explore the strengths and limitations of wireless handheld computing devices (WHDs) as primary tools for educational innovations are Harvard University's Handheld Devices for Ubiquitous Learning (HDUL) and Schrier's Reliving the Revolution (RtR). These projects provide rich data for analysis using our conceptual framework, which articulates (a) the global proliferation of WHDs; (b) society's movement toward "ubiquitous computing;" (c) the potential of WHDs to enable sophisticated types of instructional designs; and (d) WHD's fostering of new, media-based learning styles. In this chapter, our primary focus is the last of these four themes.

INTRODUCTION

In the latter half of the twentieth century, first generation handheld computers left research laboratories and entered the marketplace (Polsson, 2005). Driven by advances in software, hardware, and networking, mobile computing has now moved beyond single purpose functionality (e.g., cellphones, gaming devices, personal digital assistants) to evolve and converge into a new generation of wireless handheld devices (WHDs) that combine the affordances of personal information managers, telephony, wireless Internet connectivity, and global positioning systems (GPS). Familiar to users, computationally powerful, and

Example 1. Chapter framework



often wirelessly networked, such devices routinely travel with students and educators into academic settings, making them ripe for utilization as part of formal and informal learning experiences.

Harnessing WHDs as powerful tools with which to think and learn provided the impetus for Harvard University's *Handheld Devices for Ubiquitous Learning* (HDUL) research project. Similarly, Schrier's study at MIT, *Reliving the Revolution* (RtR), designed and assessed a specific historical curriculum, analyzing WHDs as potential tools to facilitate learning. Collectively, these studies offer compelling models for this chapter's analysis of WHDs in an array of learning situations. Whereas HDUL offers a broad review of how WHDs can be used for teaching and learning in a university setting, RtR provides a deep investigation of a participatory simulation implemented using WHDs. To interpret our findings, we use a conceptual framework that incorporates the