

# Chapter 7

## Trial and Error with Assistive, Accessible, Augmentative Technology

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### ABSTRACT

*This chapter describes the author's experiences in using assistive technology in undergraduate teaching. He argues for the importance of recognizing social factors that contribute to inequalities involving people with disabilities. The objective is to offer the simple, practical example of the author's use of communications technology.*

### INTRODUCTION

This essay describes my experiences since 1995, teaching at the university level, and using assistive technology. My hope and purpose in writing this essay is that my experiences will not be “exceptional,” since technology works at its best when it is “seamless” and mundane.

### CASE

I have taught Political Science at Chapman University in Orange, California since 1981. Most of my teaching is in International Relations. Since 1995 I have developed Disability Studies courses, *People with Disabilities in Politics and Society*, and *Disability and the Law*. In every course, given the potential for assistive technology worldwide, my means of communication are, to paraphrase Marshall McLuhan, the media as well as an important part of the message.

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Changing part of the world is inextricably connected to the educational mission of “explaining things.” Power inequalities, and attempts to reduce them, are explicitly part of my discipline, and particularly of classes in which people with disabilities in politics and society are the focus. My hope is that communications technology is “stealth technology,” so that rather than serving as a noticeable barrier, the technology augments the teaching and learning experience of teacher and students.

I have had the fortune of witnessing changes in communications technology in a brief period of time (less than two decades). This has included more natural sounding computerized voices, fewer problematic pronunciations, and fewer dilemmas of either having incorrect pronunciation from the computer, or incorrect grammar in the projected text.

I have used two software programs which function similarly. Initially, I used *Write Out Loud* from Don Johnston, Inc. Since August, 2009 I have used *Natural Reader*. With both programs, and equipment at Chapman University, a prepared written text is projected and a computer “speaks” what is written. (Other people might instantly generate new text, but I do not. I only have use of one finger [I therefore type extremely slowly], and my speech is impaired).

Computer-spoken and projected text is useful for students who learn in multiple ways. Many students read the text, which is then posted on a learning platform (Blackboard). My alternative mode of communication was particularly useful with hard of hearing or deaf students. Another discovery was that different seating arrangements are appropriate for different students. For example, one student was very far-sighted, and could sit in the back of the class room. Typed, saved, and projected text has the advantage of a concrete record, a way to resolve conflicts about what was said. Trial and error, and error and revision, have been central to my teaching and learning process.

Commercially available software has aided me, and new applications from Microsoft and Apple (notably the iPhone and iTouch) have great potential for increasing my access and other’s. Open source software can and should allow the benefits of new communications technology to be universal. Joseph Shapiro noted in *No Pity*: “universal design—the idea of making things simple to use by people with and without disabilities alike—is newly in vogue among designers and architects.” Universal design is now fortunately also in vogue with educators and instructional technologists. My experience bears this out.

## **CONCLUSION**

Paul Watzlawick taught us that: “One cannot not communicate.” With instructional technology that is human centered, I see a parallel: One cannot not be political. Political choices that recognize the interdependence of use of technology in education, with such factors as personal assistance, transportation, access to medical care, and employment, are vital to the inclusive, seamless, barrier-free, accessible, assistive world that can be.

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