Chapter II

Audience Response Systems: Insipid Contrivances or Inspiring Tools?

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“History is philosophy teaching by example and also by warning.”

Lord Bolingbroke

Abstract

Surprising to many is the knowledge that audience response systems have been in use since the 1960s. Reviewing the history of their use from the early hardwired systems to today’s computer-integrated systems provides the necessary scope to reflect on how they can best be used. Research shows that the systems have had consistent effects on motivation, and varying effects on student achievement over the years. The intent of this chapter is to consider lessons learned, consider the relation of technology and pedagogy, and to highlight elements of effective use. This chapter emphasizes the crucial role of pedagogy in determining whether audience response systems can lead to greater student achievement.
Background

New educational technology can hold grand promise. The ideas of motivated learners and effortless teaching grab the attention of even the most ardent Luddite. Who among us would not, at least, be intrigued after hearing about a tool which can rapidly move students toward deep understanding of content, and help instructors immediately realize the comprehension level of students? This is a compelling description, and it can be applied to audience response systems. Unfortunately, it is also a description that too often takes on the tone of a sales pitch, and it is important to realize that this sales pitch for audience response systems has reverberated on college campuses for nearly four decades.

Contrary to any vendor’s claim that audience response systems are a new teaching tool, these devices have a history stemming from the 1950s, when United States Air Force personnel used electronic devices to respond to multiple choice questions integrated into training films (Froelich, 1963). By the 1960s, elaborate versions of audience response systems had taken a toehold in university lecture halls. Though less sophisticated than the wireless systems common today, the audience response systems of the 1960s and 1970s were far from crude. Designers developed hardwired systems that provided each student with their own transmitter station, while professors were kept informed of overall responses via a series of needled gauges. Supplementing the hardwired systems of yesterday with prepared multiple-choice questions (presented via slide projectors) made these systems remarkably similar in appearance and function to today’s high-tech systems.

Early models, such as the commercially available Spitz Student Response System (Brown, 1972), and the Anonymous Audience Response System (Garg, 1975), were marketed as teaching tools that would improve education by providing instructors with immediate student feedback. With a jet-age name that held promise of being a true teaching machine, the Instructoscope went further by also providing individual feedback to students at their stations by lighting either green or red lights (Boardman, 1968). In response to high

Figure 1. Instructor’s view of the electronic response room. Notice the two slide projectors in the background: one projector for questions, and one for displaying content material (Bessler, 1969)
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