

The Wisconsin School of the Air: Success Story with Implications

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ABSTRACT

The rise of computer-based online learning represents either the most exciting and versatile educational technology ever or the first stage of an unrelenting boom and bust cycle (Cuban, 1986). It is too early to tell for certain, but as we read and hear the promises about online learning, perhaps we should listen to Saettler's (1990) prescient advice: "The most frequent failing of technological futurists is to predict the future with little or no reference to the past" (p. 538). In this paper, I follow Saettler's advice by exploring the history of the Wisconsin School of the Air (WSA). For nearly a half century, WSA successfully broadcast a curriculum of art, music, science, literature, and conservation to hundreds of thousands of students in Wisconsin. I argue that WSA succeeded because it: 1) focused on specific educational needs using technology, rather than on the technology, as is often done today; 2) designed instruction that complemented radio's ability to stimulate active involvement and creative imagining; 3) created opportunities for community; and 4) maintained a human touch. Finally, I discuss how the WSA experience can help us today as we attempt to make instruction more productive and enriching.

Keywords

Educational broadcasting, Educational radio, Radio instruction, Wisconsin School of the Air

Introduction

According to experts, educators have long dreamed of making instruction more productive, student achievement greater, and teaching less difficult through the efficient use of technology (Cuban, 1986). Today, that dream is largely unrealized. After roughly 80 years, educational technology remains on the periphery of American education. Cuban (1986, p.4) attributes this status to an "unrelenting cycle" of boom and bust that has characterized technological innovations in education. The cycle begins extravagant claims. Then comes a parade of positive academic studies and efforts to convert administrators and teachers. Then, ominous complaints and disappointing results arise. Soon field surveys document limited classroom use of the new technology and, finally, blame is allocated mostly to teachers. No matter, exhilaration soon breaks out for the next technological innovation, and the cycle begins anew. Saettler (1990) explains the persistence of this cycle: "Past history has clearly shown that before one technology can be developed in an orderly process for maximum efficiency, a new one appears on the horizon" (and displaces the current technology) (p. 404).

The Wisconsin School of the Air

In 1930, the hot new technology around the world was radio. The new media's potential quickly impressed educators, and within a few years, a half-dozen radio schools were broadcasting to the nation's classrooms. In 1931 WSA, operated by the University of Wisconsin, began airing 10 programs weekly, and soon received endorsement from the state (Kelly, 1990). By the mid-1940's it seemed that radio might revolutionize classroom instruction, but it was not to be. By the early 1950s, excitement over television, the new hot media, displaced interest in educational radio (Cuban, 1986). WSA, bucked this trend, and for 25 years more, escaped Cuban's unrelenting cycle. In fact, WSA's 45 years of operation, from 1931 to the mid-1970's, makes it this country's longest continually operating radio instruction effort. For much of that period, WSA programs enrolled over one-third of Wisconsin's elementary students, K-8; in 1966 enrollment reached 330,000 students (Anonymous WSA enrollment reports, 1954-1971 and Public School Enrollments, 1966). Long after television had eclipsed commercial radio, WSA remained a substantial force in Wisconsin's elementary classrooms.

Analyzing Success

Using an historical interpretive approach, I addressed three questions:

- What educational ideas informed WSA's work?
- What specific factors contributed to its success?
- What lessons can we learn from that success?

Fortunately, an abundance of sources exist at the University of Wisconsin Archives. I analyzed primary sources – school brochures, program scripts, teacher manuals, reports, and correspondence – to discover program content and to learn what WSA teachers and administrators thought and said. Secondary sources – periodicals, newspapers, scholarly journals, theses, and dissertations – provided descriptions and analysis that helped verify and clarify the data. By accumulating “thick descriptions” from the data, I was able to make causal inferences about WSA’s philosophy and practice (Gall, et al., 1996).

Philosophy

In 1936 the Wisconsin Department of Public Instruction began advocating a progressive philosophy based on Dewey’s ideas about experiential and activity-based learning (Kelly, 1990). The agency suggested that teachers replace “older methods such as passive memory work” with the progressive technique of “learning by doing”. They also encouraged radio education (Callahan, 1936, p. 14). Furthermore, the University of Wisconsin was a prime example of progressivism in higher education (Kelly, 1990). Despite this rich context of progressivism, WSA administrators and teachers avoided advocating any official educational philosophy. However, pedagogic orientation can be inferred from the “teacher manuals” distributed to classroom teachers. Some radio teachers expressed ideas about “how to teach” that reflected the influence of Dewey’s (1938) progressive thinking. For example, in his teacher’s manual for 1952-53, McNeil (Ranger Mac) stated that activity is key to learning. He advocated encouraging students to create a Conservation Corner in the classroom and also to record their observations of nature in a logbook. These would serve, he said, as, “...a way to strengthen the teachings of the broadcasts by activity. They are the means of arousing interest in the surroundings and of fixing in memory the lessons presented” (McNeil, 1952-53, p36).

Jim Schwalbach, a radio art education creator, advanced in his manuals a philosophy that art should be a source of enjoyment for all and not just a privilege of a talented few (Kelly, 1990, p. v). He shaped his activity-based “Let’s Draw” program to foster self-confidence, self-expression, and self-evaluation within an environment of social cooperation. These ideas parallel Dewey’s ideas about teaching for life in a democracy (Kelly, 1990).

In her 1963-64 manual for “Let’s Write,” Applegate offers a just-in-time self-directed approach to learning that has much in common with today’s ideas about authentic learning. For example, she advises teachers that:

The mechanics of English are easy if children learn them when they need them. Direct conversation, for instance, needs quotation marks to fence it in. Send your pupils to their language books (during the writing task) to find how to punctuate and to paragraph direct quotations... Urge children to develop the habit of using their books for self help (Applegate, M., 1967-68, p. 6).

Brown et al. (1989) recommend a similar approach. They recommend that rules and the use of cognitive tools be taught in the framework of the context that produced them and in real time, just as the radio teacher suggested.

Four Success Factors

While the examples above show the clear influence of Dewey’s ideas, philosophy alone can’t account for WSA’s success. I’ve identified four factors of practice that are notable.

Meeting Educational Needs

WSA’s founders addressed a set of needs related to rural isolation and the limitations of one teacher working with a group of students ranging in age from 5 – 13. Educational radio, they decided could ease the plight of over 4,000 rural teachers who were trying to teach all subjects, but who “had no training in music or art and the creative activities that children need” (Gordon, 1930, in McCarty, 1965, p. 2). Rural and small town schools offered a basic curriculum that emphasized reading, writing, and arithmetic. But, “Areas such as nature study, drawing, music and literature were in second place” (Apps, 1996, p. 97), as were science, current events, and government. Table 1 illustrates how WSA expanded the curriculum with “second place” curriculum subjects.

Programs	Grade Level	Subjects
Journeys in Music Land	4-8	Music and singing
Afield with Ranger Mac	5-8	Conservation and natural science
Rhythm and Games	K-3	Physical education, games, rhythmic
Let's Draw	4-8	Art and drawing
Exploring Science	5-8	Science and experimentation
News of the Week	5-8	Current events
Book Trails	3-8	Literature and story telling
Democracy in Action	5-8	Civics, history
Let's Find Out	2-4	Basic science
Music Enjoyment	1-4	Music appreciation

Note: The basic skills of reading, writing, and arithmetic were not offered.

Table 1. WSA Program Schedule 1948-49

By addressing specific educational needs, WSA's broadcasters quickly gained support and affection. One WSA story has become a rural legend. A country teacher, in a school too poor to afford a radio, found a way to overcome this obstacle because he was dedicated to "Ranger Mac", one of the most popular WSA programs. At broadcast time, he took his class outside, gathered around his Ford, and listened on the car radio. "Got a little cold sometimes", the teacher recalls, "but we never missed a program" (Apps, 1996, p. 91).

Active Involvement and Creative Imagining

The amount of active learning and creative development that took place during the WSA broadcasts was remarkable. Radio has some unique strengths. First, it can stimulate the imagination in a way that neither TV nor the computer can (Kentzler, 1975). "The beauty of radio is that, unlike television, it puts the listener into the mix. ... voices heard, but not seen, allow free play ... in the Cineplex of the mind" (Cramer, 2000, in Dunne 2000, p. 94). Secondly, radio allows freedom of movement. Because hands and eyes are free, listeners can draw, write, dance, and manipulate objects during a radio broadcast. WSA programs such as "Let's Draw, Let's Sing, Let's Write, Rhythm and Games" and "Exploring Science" got children, ages 5 – 13, drawing, singing, dancing, writing, imagining, and collaborating with one another. Here are two examples:

Let's Draw. In 1936 radio teacher, Jim Schwalbach, used music, narration, and sounds to stimulate children's imagination and encourage active learning. Schwalbach instructed the students to put their heads down and shut their eyes while he played a segment from Grieg's *Peer Gynt*. He described vividly the journey to Grieg's workshop in Norway and encouraged students to imagine the place where he worked. "Now, you are ready to see the painting in the music". He played the music segment again and asked the students to draw what they saw and heard. "Sketch quickly. Develop ideas later" (Kelly, 1990, p. 2-3). Immediately following the broadcast, students completed their drawings. Then, working as a group, the students, not the teacher, selected the best works to send in for evaluation. This suggests an active, democratic collaboration (Kelly, 1990).

Exploring Science. It is remarkable that elementary students performed science experiments in the classroom under the direction of a distant radio teacher, but for nearly 30 years that is exactly what thousands of Wisconsin students did. "Exploring Science" required students to participate actively in the learning process. Following is a report of an "Exploring Science" broadcast experiment.

The program began with a dramatization, by radio actors, of the moment when Daguerre in France stumbled on a method of capturing a portrait on paper. Then, with guidance from the radio teacher, the experiment committee and their watching classmates relived this moment of discovery by performing their own experiment. (Milbauer, 1949, p. 1)

The dramatization provided context for the ideas that were demonstrated in the experiment, which was then carried out by classroom students who had been organized into experiment committees. Milbauer (1949) documents how the radio lesson got students physically and mentally involved in the learning process.

A Community of Listeners and Learners

Today, some educators are concerned with the high dropout rates in online courses. They assert that student satisfaction and performance can be improved by building learner communities (Hill and Raven, 2000). My

research shows that WSA intentionally worked at building community among its listeners and that contributed to WSA's popularity throughout Wisconsin. They conducted regional and statewide contests, festivals, and events that enabled WSA students and classroom teachers to meet one-another, in person, in a learning environment. For example, up to 12,000 "Let's Sing" students met annually with their radio teacher at the regional and statewide music gatherings that were part of E. B. Gordon's, "Let's Sing" experience (McKeller, 1950; Schneiker, 1949). These large group meetings helped transform isolated, scattered student groups into a huge community that sang and learned together.

"Let's Draw" provides another example with its Round Robin Art Exhibits. A group of nearby schools joined together to exhibit student artwork. How interesting and unusual it must have been when students and teachers from several local schools gathered, perhaps at one school, a church basement, or even in a barn, to appreciate each other's creative work while cows lowed softly nearby. Radio teacher Jim Schwalbach insisted that students identify their peer's artwork for recognition and inclusion in local exhibits (Kelly, 1990). Having the students discuss and select each other's artwork exemplifies how WSA fostered democratic learning communities.

Maintaining a Human Touch

Many of the WSA radio teachers exuded a "personality" – a human touch – that today might sound quaint and out of date. Radio was the media, of course, but the voice was the instrument. Apps (1996) describes Ranger Mac as having a deep, "mysterious" voice that "kept pupils enthralled about the outdoors." A review of several "Ranger Mac" program scripts reveals the probable source of the Ranger's appeal. His scripts were masterpieces of communication, carefully tailored to the minds and vocabulary of young people and incorporating a lyrical quality that verged on poetry. He used that poetic quality to explain natural science and conservation, topics that otherwise might be dry as dirt. For example:

When rain falls on treeless slopes and hillsides, much of it does not sink into the soil. Instead it runs over the surface and the many little rills join to make larger streams, until finally the streams get large enough to carry off great quantities of fertile soil and carve deep channels in the landscape. This, as you know, is called erosion (Transcript, "Ranger Mac", 1952).

After listening to only a few tapes, I found the radio teachers instantly recognizable and soon formed opinions about and attachments to each.

Evaluation, Feedback and Field Visits

I uncovered no evidence that WSA ever conducted summative evaluations of learning results, but they did undertake many formative evaluations. Probably the most noteworthy effort took place in 1944-45. Sixteen WSA staff members, including several radio teachers, visited WSA schools to observe educational radio in action (Report of School Visits, 1944-45). Their reports provide a fascinating "fly on the wall" view of broadcast radio. The following samples give an idea of how the reports went.

"Rhythm and Games": ...the children got so worked up, they drown out the radio; it was hard to work with large groups, but special praise goes to Mrs. Steve, the narrator. "She can give lessons to anyone, she's practically infallible" (Bart, J., 1945 p. 1-2).

"Young Experimenters": ...Program direction must be given with more care. As part of an experiment on pendulums, the manual asked the children to bring string and a nut. The meaning apparently was a metal nut for a metal bolt, but most of the children brought walnuts. They struggled to tie string around those walnuts (Krulevitch, W. 1945, p 1-2).

Fannie Steve, the radio teacher for "Rhythm and Games", concluded that when the classroom teacher actively facilitated learning, students were attentive, involved, and participated in the follow-up (Steve, 1944).

Decline of WSA

WSA succumbed not to TV, but to changing demographic and social trends. By the mid 1970's, not only was the rural population declining, but also, the school consolidation movement was in full swing. As a result many one room and small schools in the USA were closed. By 1975 most rural students attended large "unified" schools

that offered classes in art, music, science, literature, and physical education taught by qualified teachers (Kelly, 1990). These fundamental changes in population and educational needs contributed to WSA's decline.

Summary and Conclusions

WSA was a rousing success in its time. In a field characterized by cycles of boom and bust, WSA became a stable component of elementary education in Wisconsin. Its success is demonstrated by its longevity and enrollment. For most of its 45-year history, WSA enrolled more than one-third of the state's elementary students. Many schools expanded limited curricula by tuning in WSA's award winning programs. From this vital history can be drawn valuable lessons that can help today's educational technologists avoid Cuban's "unrelenting cycle" of technology applications and discards.

Focus on Defined Educational Needs

The historical material shows that WSA leaders focused on education and communication, not a technology. They mastered the technology, but they never seemed mesmerized by it. Today, we must remind ourselves continually that the technology is only a means to the end of improving education.

Design Instruction that Complements the Technology

WSA program designers, writers, and narrators quickly learned the strengths and weakness of radio. They created programs that stimulated the imagination and involved active participation in learning. The lesson seems to be this: discover the strengths and weaknesses of the new technology. What works well online and what does not? Answers to this question should, in the spirit of WSA, come from direct observation and rigorous research.

Create Community

Today, the web offers a much richer media mix than radio, and therefore more possibilities for drawing people together. The potential for conducting festivals, exhibits, discussion groups, lecture programs, even social activity for online students is enormous and probably untapped. This suggests a great need for future research on how to create community for online students.

Maintain a Human Touch

Technology cannot change the fact that education remains a human endeavor. Gifted communicators such as Wakelin McNeil and Fannie Steve were able to connect personally with classroom teachers and children. What WSA tell us is that the human voice is a powerful communication tool, sometimes more powerful than text and graphics. Moreover, the lesson of WSA efforts seems to be to evaluate online materials in terms of their human touch. When that human quality is missing from instruction, even well designed programs using the most advanced techniques may fail to connect with the learners.

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