CHAPTER I
GIDDY PROPHESIES AND COMMERCIAL VENTURES: THE HISTORY OF EDUCATIONAL MEDIA

The motion picture is destined to revolutionize our educational system and…in a few years it will supplant largely, if not entirely, the use of textbooks.
—Thomas Edison, 1922

Wedded to a deep identification with both science and religion, technology is the center of [American] civic life, the one unquestioned good, before which we both worship in awe and collapse in fear…Our national storytelling is, to an unusual extent, embedded in the history of technology.
—James Carey, 1997.

Technology has a special place in American culture. It is ineluctably wedded to the American philosophy of progress and we romanticize its capabilities. We trust that scientific achievements will make the world a better and safer place (Robins & Webster, 1999). Our faith in technology has certainly been prevalent in the social sphere of education. Since the turn of the 20th century and the development of communication technology, educational literature and the popular press have been filled with visions of technology-laden schools and giddy prophesies of how the latest medium will improve learning across the educational spectrum. As educational historians have noted, each new technology introduced into schools spurred an enormous amount of enthusiasm among educators, administrators, and technology advocates (e.g., Cuban, 1986). The use of Victrolas, film projectors, radios, televisions, cassette recorders, video, computers, CD-ROMs, and the internet have all been presumed to rejuvenate and/or reform education. Not surprisingly, the hopeful discourses for each medium throughout this "Age of Information" are so similar that predictions for one educational technology can easily be substituted for another.

Each new technology was believed to solve chronic *administrative problems* in schools. New technology would increase classroom efficiency, solve teacher shortages, and replace "bad" teaching (e.g., Levenson & Stasheff, 1945). Administrators could also point to the important technological and communication skills, such as "earmindedness" in the case of radio, as well as speaking, writing, and production techniques that students would need for future employment (e.g., Atkinson, 1938). But most importantly, new technology was believed to aid the *teaching process*. Records, films, radio, television and the internet would enhance "dull" school life and tired textbooks by bringing the real world, expert knowledge, and enriching content into the classroom (e.g., Marsh, 1936).

Technologically-mediated content would motivate students to want to learn (e.g., Atkinson, 1938; Darrow, 1932). New technology was celebrated as an impetus for student-centered and collaborative learning, and teachers were encouraged to view their students as "co-planners and co-workers" who, beyond listening or watching, would become *active* and engaged

participants in the classroom (e.g., Atkinson, 1938). With the aid of media technology, students—everyone—could learn beyond the classroom through quality educational and entertainment programming. The technology, in other words, would inspire endless learning opportunities. With every new medium came these claims about better learning environments, better teachers, smarter students, smarter people, a more responsible civic environment, and a better world.

Technology, Yes, But What About Content?

Since pedagogy has always been at the crux of most educational technology rhetoric, it is not surprising that pedagogy is also the focus of existing historical research. Over the past two decades, historians—representing both pro-technologist and anti-technologist camps—have considered the effectiveness of educational technology's impact on the teaching *process.* They have asked, for example, whether or not a particular technology stimulated student participation, changed the structure of teacher-student relations, or enabled teachers to convey information more efficiently. In their endeavor to identify a pattern or a "cycle" of technological use in the classroom from decade to decade, however, these writers have overlooked important differences between technologies by eventually encompassing a very wide span of communication advances under the singular term "technology." Some firmly believe that the technology is always good but that unwilling teachers make it fail; others blame the ponderous nature of the technology itself and assert that it's not what teachers need to teach well. The focus is always on the machine as it helps or hurts the teaching process.

While pedagogy may indeed be a significant part of the story of classroom technology, analyzing the *content* carried over these new technologies is an equally important—and drastically overlooked—part of the educational technology story. What were students listening to or watching in schools, and why? What forces controlled educational program content, and how did this control ultimately determine the way it was used in schools? What, if any, ulterior motives existed to get a particular kind of content in the classroom? If teachers are the gatekeepers of technology who have time and again rejected educational technology, I would like to reconsider what teachers and administrators may have been ultimately rejecting in the march to put new technology in schools. Were they rejecting the technology, per se, or were they rejecting the programming delivered via particular technologies?

Film in the Classroom

When considering the history of educational technology, it is necessary to make an important distinction. Some classroom technologies had been fully developed as commercial enterprises *before* they entered the educational market. Other technologies began as experiments among educators and hobbyists, and then *afterwards* became more broadly defined as a commercial media.

Film technology came to education via the first path: as an industry afterthought. Celluloid film was adapted for motion pictures in the 1880s, and in only six short years, the potential of film as a commercial theatrical enterprise was evident. Only after 1910 did commercial companies begin to tap the education market with its new genre of "educationals" (Saettler, 1990).

Although the possibilities of moving images in the classroom was certainly inspiring for many, the most vocal film advocates represented companies with a stake in getting schools to buy film projectors. Thomas Edison, for example, who had taken part in inventing both film production and projection, was one of the hugest promoters of classroom film use. Consequently, Edison became very much like what Bill Gates is today for the internet: a huge advocate of film in schools, which he prophesied would render books obsolete and would stimulate learning beyond people's imagination, changing school life within a decade (Saettler, 1990).

Between 1900 and 1920, a number of other companies formed in hopes of taking advantage of the developing school-film market. Most of them began in the film projector business and accumulated film collections in order to ensure greater equipment sales and extend the scope of their business. As far as these film collections were concerned, size was far more important than quality. In other words, the films came from just about anywhere: Hollywood (film flops repurposed for education or outtakes salvaged from the cutting room floor and spliced to fit an educational theme); the U.S. Government (dated war propaganda films and others about agriculture and health issues); corporations (public relations attempts to inform students—in a one-sided sort of way—about their corporate philosophies, histories, and product lines). The Ford company, for example, enlisted its extensive film production facilities to create the "Ford Education Library," which was devised as a far-reaching public relations effort to indirectly promote the Ford company, cars, and driving, in schools. Only a small number of educational films were actually produced by educational film companies. These were very low-budget, often consisting of a single talking head and a few essential close ups. Like most of the Hollywood flops/outtakes, government propaganda, or corporate advertising, these films were generally undesirable for classroom use.

Since educators were not consulted as classroom films were put together, and since the resulting selections contained films of remarkably bad quality and pervasive advertising appeals, teachers didn't trust either the films, or the profit motives of film production companies (McClusky, 1937). By and large, teachers were skeptical of the increasingly powerful business community in the beginning decades of the 20th century. As they are today, schools were a constant target of businesses ever since public education began in the early 19th century (Fones-Wolf, 1994; Molnar, 1996). But when the Depression hit, teacher distrust was magnified as local companies closed down, decreasing school income and creating social turmoil. Schools were further hurt when business organizations such as the Chamber of Commerce began to call for the modernization and streamlining of education practices. In the spirit of greater efficiency, business leaders proposed reducing school taxes, school budgets, and teacher salaries. Included in this rhetoric was the necessary employment of educational technology (i.e., film) to replace inefficient and costly teaching methods. Not surprisingly, educators were not receptive. Indeed, many leading educators were radically critical of American business, and began to openly criticize business practices, as well as the free enterprise system (Fones-Wolf, 1994).

With such antipathy towards a corporate agenda in the classroom during the 1920s and 1930s, no wonder educators recoiled at the many infomercial (and other) films that attempted to pass for education. Interestingly, Saettler (1990) reports that colleges and universities cleared their libraries of advertising films in 1923, saying that this type of propaganda could not possibly meet educational objectives (p. 112). As such, commercial educational film ventures seemed to be doomed from the beginning. They couldn't bear the expense of producing educationally-useful film content, and the alternative—cheap productions and infomercials—did not move teachers to embrace the medium.

Hopeful that carefully produced educational content had enormous potential in schools, F. Dean McClusky (1937), a school director and university instructor with expertise in visual education, offered three suggestions**:**

1. Companies producing educational films had to work with educators, "not theatrical producers or by any others with whom the production and distribution of motion pictures is a side line or medium for propaganda or purely a commercial enterprise."
2. These educators would be appointed by an advisory board, which would "blueprint needs, conduct research, and validate materials." The board would operate in a nonprofit framework, and no board member would be able to financially benefit from their position as advisory board member.
3. The commercial producers would only be able to market educational films and ancillary materials that were approved by the advisory board; a service motive would have to come before a profit motive; and the company could in no way bend to special interests (p. 26).

Such collaborations never happened because film was too expensive and difficult a medium for commercial film education companies (and educators working alone) to produce educationally-relevant films. The economics of the medium, in other words, influenced the educational content, and the educational content failed. As such, film lost its luster in the classroom; indeed, it never really had a chance as an educational tool.

Radio in the Classroom

The story of educational radio is also one plagued by issues of quality content and educator control over the medium. The first educational radio programs were broadcast to schools in the early 1920s, just as teachers were losing faith in educational films and their content. As a new school technology, however, radio was considerably different from film, and as I will argue, had considerably more potential in being widely embraced and used in schools.

Radio differed from film on three levels. First, when school broadcasts began there wasn't much inkling of radio's commercial potential. It was understood broadly as a medium controlled and inspired by individual inventiveness, and for the greater public good. Widely celebrated and initially used as an education tool during its first five years as a mass medium, radio did not fully develop as a commercial enterprise *before* it was used in schools, as film had been. Second, despite the huge significance of the invention, radio was a rather uncomplicated technology to master and utilize. If young adults could buy radio transmitter and receiver kits and access the airwaves (as they had been doing in radio's early years), so could educators. Perhaps more significantly, radio production didn't require special cameras, costly film stock, shooting, film labs and film development, editing skills, and distribution centers. Consequently, it wasn't out of the realm of possibility for educators to produce radio programs and thus control their own educational content. Third, as a medium with unprecedented reach, one radio broadcast could target more listeners than any medium before it. As I will discuss, this was a positive for educational radio, but also would lead to its demise.

Like the early internet, early radio was a crude but tremendously thrilling communication tool used by hobbyists and students in engineering schools. The first radio broadcasters, like the first internet users, were hacker types who saw the incredible democratic potential of the

medium: private citizens could communicate across vast distances without relying upon either the government or a corporation. Mostly middle and upper-class boys with time to tinker, these radio hobbyists relished in the novelty of speaking to complete strangers in the "ether." Instructions for assembling a home-made radio—in magazines, wireless manuals, children's books, and Boy Scout guides—spurred airwave exploration (Douglas, 1987). High schools were an important petri dish for early radio as they encouraged clubs to promote radio even further. Young boys joined radio clubs, held club meetings over the public airwaves, staged competitions between clubs, and engaged in what became a highly collaborative and addictive activity. When young radio operators communicated with rescue crews during the 1912 Titanic disaster (helping to save hundreds of lives), radio developed a heroic luster, spurring even more hobbyists to join the wireless scene. But the ship-to-shore communication effort also signaled radio's strategic significance to military operations. Hobbyists were ordered off the air during World War I, and by 1920, the public airwaves were open again for exploration.

This time, a new crop of radio hobbyists emerged across the U.S. and Canada. They played music and news to listening friends a few nights a week and ushered in a new era of broadcast radio. Educators at universities began establishing their own educational stations, and advertising-supported commercial ventures began to spring up (Douglas, 1987; Kellner, 1990; Smulyan, 1994). The popular press celebrated radio's entertainment, education, political and religious potential and called the technology "an autonomous force, capable of revolutionizing American culture" (Douglas, p. xv). Every radio listener could have the best seat in the auditorium, access to a super radio university that would educate the world (leveling class distinctions and erasing Ivy-league elitism), create greater political awareness, and enable access to religious sermons. Radio was of even greater significance to the poor, the elderly, the infirm, and rural communities, who couldn't fully participate in American democracy. Indeed, these accounts heralded radio as a means for ending isolation, bringing the world together, fostering an educated and democratic citizenry, and providing unending social enrichment.

The Potential of Educational Radio

In part because educators controlled a good number of the first radio stations, the popular rhetoric about radio's potential in education dominated early perceptions of the medium. Just like claims during the early 1990s that the internet was an "information superhighway" or a "universe of knowledge" (Clinton, 1997a), radio was framed as a "transmitter of information" (Zook, 1936) and a "university of the air" (Ickes, 1936). Indeed, with their own experimental stations, educators were quite busy trying to realize radio's educational potential. Between 1922 and 1926, experimental radio lessons were broadcast from commercial, university-based or nonprofit stations within local and regional areas. Similar to the internet "NetDay" installation efforts during the 1990s, state Departments of Education organized programs to encourage radio installation (Atkinson, 1938), and smaller schools, with the help of local volunteers, wired their own buildings. Some schools bought radio receivers outright, and other schools listened on borrowed or donated sets.

Because educational radio programs could be broadcast into homes and businesses as well as into schools, broadcast radio became a means for extending learning to people in far-off venues, and a valuable public relations tool for promoting awareness and excitement about education by radio. Housewives listening at home often became the most adamant supporters for a school's investment in radio technology. Schools also began to use radio to communicate

educational matters on a daily basis, hold PTA meetings and teachers forums, and enlighten taxpayers about the need for high-quality education. The majority of school broadcasts related to the curriculum, however. Early broadcasts included music appreciation courses, political addresses, public speeches and debates, radio lectures delivered by local or regional teachers/experts or played on phonographs, and live dramalogues or storytelling. Some schools with short wave receivers could receive international broadcasts.

By 1929, radio education became more organized as educators banded together to establish nonprofit "schools of the air." Many of these schools operated in the Midwest, especially in Wisconsin, Iowa, and Ohio. One of the first of these was the Ohio School of the Air, which operated between 1929 and 1937 under the direction of Ben Darrow, an indefatigable advocate of educational radio. This radio education effort, which had a listener base that extended to Canada, began, like the others, with generous state support: $40,000 was appropriated in 1928 for its first two years of operation. When the Depression caused a school funding crisis during the early 1930s, the Ohio School of the Air was able to survive due to continued state appropriations.

The considerable amount of funding given to educational radio covered the schools' technical, administrative, and material costs, not the cost of providing content. The content for the Ohio School of the Air was provided by enthusiastic—and largely unpaid—teachers and local experts, who collaborated for the love and excitement of bringing education to radio. A huge amount of time and effort was involved in planning the curriculum, finding and rehearsing decent talent, promoting the programs, and distributing lesson leaflets to schools. The programs fell into a daily schedule between 2 and 2:40 p.m. Beginning with an announcer asking students to rise and sing to an organ performance of "America the Beautiful," the program continued with three units, with one unit directed to upper grades (e.g. current events, French or chemistry, literature, constitution and citizenship, and drama), another to intermediate grades (e.g., nature study, literature, and health), and a third to the lower grades (e.g., story plays and rhythmics, geography, and music). Music was played between subject units so schools with receivers in larger rooms or auditoriums (and not individual classrooms) could adequately get one group of students out and another one in.

Although these radio programs necessarily generated limited student interaction during the broadcasts—a perpetual drawback of radio education—teachers were encouraged to raise questions before and after a broadcast, invite comments and correspondence, and engage their students in critical thinking activities. With palpable and growing excitement among educators about the future of radio education, 176 broadcast licenses were issued to colleges and universities alone between 1921 and 1925 (McChesney, 1994). Perhaps much of this excitement had to do with the novelty of the medium, the positive buzz in the press, and the sometimes excellent listening opportunities available to students. Perhaps another reason could have been that this medium, for the time being, was controlled in large part by educators, and was an honest and earnest civic effort with the best interests of students and the public good in mind. But radio "failed" in schools. Why? Because commercial radio overwhelmed educational radio initiatives. The technology itself was educationally useful, but commercial imperatives sidelined educational radio content, and subsequently educational radio disappeared.

The Growth of Commercialized Educational Radio

As publicly-funded schools of the air and local nonprofit content providers continued to develop educational radio content and inspire more radio use in schools throughout the 1920s, there was a simultaneous development: Commercialized radio also was becoming even more available, gradually pushing out nonprofit ventures and celebrating the numerous informational, educational, and entertainment opportunities it would bring. Some radio historians have noted that the financial costs of sustaining a nonprofit station was the reason so many educational stations went under (Frost, 1937). Others have pointed to the commercial radio stations forcing out the "competition" (Atkinson, 1938; Hill, 1942). Saettler (1990) offers another compelling reason, arguing that the U.S. Government, which had the authority to license stations, endorsed a "philosophy of commercial radio" and applied the same commercial standards to nonprofit radio as it set for commercial stations. These high production standards were so costly to abide by that they forced educational stations to withdraw their operations (p. 204). In any case, the number of educational stations had decreased at an alarming rate by the late 1920s.

Commercial radio stations quickly outnumbered nonprofit stations and also began to dominate educational radio. Local and regional commercial stations had already welcomed the free educational content supplied by educators, which could fill time slots not yet taken by sponsored programming. Soon, however, networks began producing ad-supported educational programs themselves. It was shows like NBC's Walter Damrosch Music Appreciation Hour (circa 1928) that put a stamp of approval on the radio industry's inroads in education. Damrosch had a 50-piece orchestra at his disposal and discussed orchestral music with such energy, charm, and expertise that schools without radios invested in new receivers just to hear the national broadcast (NBC was the most powerful network at the time). Other schools-of-the-air avoided programming on Friday afternoons, knowing that the Damrosch hour would have the largest draw. The radio industry hyped the educational potential of these sort of programs, and presented them as noble public services rather than profit-seeking ventures (McChesney, 1994). NBC, for example, pledged to "only sell that amount of advertising necessary to subsidize first-rate noncommercial programming" (p. 16). A number of high profile educators even worked with NBC and other commercial networks or stations to produce such "high-quality" (albeit ad-supported) content. Many educators even began to feel that ads were a necessary means of helping the quality of an educational broadcast.

As more nonprofit educational radio stations went under, NBC invested in even more educational programming and organized the Standard School Broadcast as "an important National Broadcasting Company feature" beginning in the 1928-29 school year. Likewise, CBS (which established its network in 1927), began the American School of the Air in 1930 with a prominent professor from Columbia University's Teachers College as its chief advisor; and the Mutual Broadcasting System, founded a little later in 1934, organized the Nation's School of the Air series, a somewhat less ambitious commercial educational service (Atkinson, 1938). Despite the effusive rhetoric about their zest for educational quality, and the importance of radio education and radio access for all, NBC and the other commercial networks were well aware that their educational programming, at least during the early days of radio broadcasting, *was* profitable. Having studied the size and distribution of this audience and its proclivity for buying products advertised over the air, the radio industry had found that the profits did not come because students necessarily responded to radio advertising—the youth market was not fully

cultivated in the U.S. until the 1950s. Rather, profits were due to ads reaching housewives and other people who tuned in as they worked at home.

Educators Divide Over Commercial Radio

Despite the success of the Damrosch hour and other commercial educational broadcasts, educators became increasingly divided over the future of educational radio. Some were horrified at the idea of corporate-controlled radio. A basic societal mistrust towards big business—the same mistrust evident with commercialized educational films—was especially apparent with radio, the "true" democratic medium (Fones-Wolf, 1994). Those educators who understood the benefits of a public radio sphere and were witness to its increasing (if not alarming) erosion as commercial interests grew more powerful, vigorously opposed commercially-based educational content in schools. They believed that ads were not acceptable in the educational arena, that a corporate-sponsored radio curriculum would inherently favor commercial interests, that educational radio would never generate enough profits to satisfy commercial objectives, and that industry control over educational radio would eventually mean the end of all educational radio. These educators—many coming from leading educational organizations—formed an advocacy group in 1930, the National Committee on Educational Radio (NCER), which began to develop a nationwide campaign against commercial broadcasting and promote legislation that would preserve 15 percent of the radio dial for noncommercial educational content. This move naturally alarmed commercial broadcasters, who were intent on protecting the significant gains they had already made in radio content control and the standardization of advertising practices in the education market. NCER's chairman, Joy Elmer Morgan, relentlessly attacked the radio industry's profit motive:

> As a result of radio broadcasting, there will probably develop during the twentieth century either chaos or a world-order of civilization. Whether it shall be one or the other will depend largely upon whether broadcasting be used as a tool of education or as an instrument of selfish greed. So far, our American radio interests have thrown their major influence on the side of greed....There has never been in the entire history of the United States an example of mismanagement and lack of vision so colossal and far-reaching in its consequences as our turning of the radio channels almost exclusively into commercial hands (quoted in McChesney, 1994, pp. 48-49).

Other educators could not imagine this doomsday scenario. They had a basic trust in commercial broadcasters serving the needs of education. By forming the National Advisory Council on Radio in Education (NACRE), they hoped to work with commercial stations and continue to develop high quality educational content. They believed that taxpayers would never support a publicly-funded network; that commercialized content was the only (and not such a bad) alternative; and that commercial broadcasters would always make room for educational radio in their programming lineup, as long as it met high standards. NACRE's main aim was to promote good relations between educators and the radio industry, and find ways to further collaborate on high quality educational programs. The educators that most staunchly supported NACRE had in fact been hired by commercial stations or one of the networks to develop programs or act as talent, and not surprisingly, had a stake in advocating more of these kinds of collaborations (see, for example, Gordon, 1942). NACRE's opposition to ads in commercial educational programming—one area where the organization would not cooperate with the industry—gave them a veneer of neutrality. Consequently, numerous teachers took their side. Besides NACRE's anti-ads stance, however, the organization was very much an arm of the radio

industry, which praised the council relentlessly for its liaison efforts while lambasting NCER as loony and extreme.

Commercial Radio Has the Last Word

The period between 1928 and 1930 proved to be an active and volatile one for educational radio as the two oppositional educational radio organizations, NCER and NACRE vied for influence, and as commercial networks grew stronger and more entrenched. In fact, the entire country was divided over the future of radio and a growing distaste for advertising on all programs. President Hoover was among those worried about the potential downsides of commercially-dominated radio, and stated in 1931 that "It is not conceivable that the American people will allow this new-born system of communication to fall into the power of any individual, group, or combination" (*Education*, p. 25). Even the Federal Radio Commissioner Chairman, Harold A. Lafount, warned his industry in 1931 that commercialized radio would go too far, offending people to the point of revolt (McChesney, 1994). In 1933, the year's national high-school debate topic actually asked students to argue either in favor of the publicly-funded British Broadcasting System model or the "American" commercially-dominated alternative (Spring, 1997). Thousands of teenagers across the country were thus researching the benefits and pitfalls of commercially-sponsored radio. The broadcasting industry fought back these (and other) assaults in 1933 by airing weekly "Short Talks on Advertising." Produced by the Advertising Federation of America, the programs were meant to highlight the important attributes of American advertising as a means for bringing happiness and democracy to American citizens (see McChesney, 1994).

Meanwhile, the networks' success at selling ads meant more ads creeping into educational programming. This ad creep angered the listening public, and ads in *education* especially epitomized the evils of the free enterprise system. To avoid public anger over ads in its educational programming, the networks slowly began to reduce their educational offerings. As such, commercial stations were caught up in their own hypocrisy. Because the radio networks had so enthusiastically celebrated the potential of (and their commitment to) radio education, backing out of educational programs caused considerable disfavor among the public and public officials, who had bought into the value of high-quality cultural and educational content. Radio was supposed to bring in real world experts, transmit Harvard-level lectures to the farthest corners of America, and promote widespread democracy, or so Americans were told. The industry was caught in an act of deception.

NCER challenged the radio industry all the way to Capitol Hill. In 1931, Senator Simeon D. Fess (R-Ohio) introduced a bill requesting that 15 percent of radio's channels be reserved for educational institutions. The 1931 Congressional session ended before any action was taken. Three years later, however, in 1934, during a realignment of all radio legislation, the Wagner-Hatfield Amendment was introduced—a bill arguing that 25 percent of all broadcasting licenses be given to nonprofit stations (Balas, 1999). Many members of Congress were moved by the need to keep the public airwaves public (Hill, 1942). But, the commercial broadcasters were prepared for battle, and had been busy between 1931 and 1934 organizing and lobbying against reform legislation. In a stunning moment of history that would have ramifications for all U.S. media in years to come, the radio industry effectively argued a number of positions during the 1934 hearings:

- First, by equating Americanism with democracy, democracy with the free market, and the free market with capitalism, the radio industry linked democracy to capitalism (and a commercial broadcasting system), and proceeded to position the interests of education (as well as religion and other nonprofits) as "special interests." With limited frequencies on the AM radio band, there was no room, they argued, for special interests (McChesney, 1994).
- Second, the fact that educators were not united on the role of publicly funded radio education allowed the radio industry to convincingly portray the broadcast reform effort as fractious and misguided (Saettler, 1990).
- Third, they effectively laid out the position maintained since the beginning: educators at nonprofit stations would never be able to produce high-quality content because American taxpayers would never foot the bill.

Twenty-four days were devoted to these hearings. Out of this time allotment, the NCER had only ten hours in which to defend their position. "The remainder of time," Hill writes, "was used in hearing the network representatives, the National Association of Broadcasters (NAB), various other commercial radio representatives, spokesmen for labor and religion, and many educators not associated with the [NCER] committee" (1942, p. 70). Indeed, some educators spoke against the 25 percent allocation, saying that education wasn't ready for such responsibility; others reported cooperative and successful arrangements with the commercial broadcasters. In the end, Congress decided that the entire matter needed more study, so they established the Federal Radio Education Committee, allocating $75,000 in 1935 (Studebaker, 1936), and $130,000 in 1936 (Hill, 1942). Forming a commission to study radio education only gave the networks more time to consolidate their power, and put the concept of a tax-supported educational network on hold. The landmark 1934 Communications Act was passed without the Wagner-Hatfield Amendment ever becoming a reality.

During this period of increasing corporate control, radio executives and their political supporters continued to speak a high-minded educational rhetoric about the importance of educational radio. At the first National Conference on Educational Broadcasting in 1936, commercial broadcasters (who dominated the conference) linked educational radio to democracy, as a means for vitalizing instruction, and as a medium for lifelong learning (Sarnoff, 1936). But these executives also argued that advertising was necessary for educational radio to survive; that educational radio programs needed to be much better if people were to listen in; and that "educational content" could really be found in nearly every kind of programming they produced.

That same year, the FCC asked each licensed station on its renewal form to indicate the time they allotted for education, agricultural, fraternal, religious and entertainment purposes. Since none of these terms were defined, however, it was up to the station to determine what counted as educational content. The new industry goal, it was clear, was to dismantle educational radio by rationalizing that all shows could be judged educational. This position justified cutting educational radio—the kind directed towards students—out of the program line up for good. Indeed, this is exactly what happened. Educational programming began to diminish in the late 1930s, and was nearly nonexistent by the mid-1940s. In 1933, CBS had carried four educational children's programs and NBC had carried ten. By 1942, CBS had only one, and NBC had none (Gordon, 1942). That same year, the NCER was dismantled. Their final *Education by Radio* newsletter discussed the many goals the organization had met, including higher quality radio content. In fact, NCER's biggest concern about a monopoly of radio communication and the not-

to-be trusted interests of the radio industry had been realized. The democratic potential of radio, in education and as a thriving public sphere of the discussion of multiple viewpoints, was gone for good. The reasons, once again, had nothing to do with the technology itself. Teachers had embraced the medium like none other before it. But commercial enterprise took control of the medium; educational content interfered with industry profits, and the content was removed, once and for all.

Television in the Classroom

During the 1950s and 1960s, television became another media technology celebrated for its pedagogical promise. Once again, the familiar litany of educational claims accompanied the new medium; according to Levenson and Stasheff (1945), "Television's 'potential' for education was even more loudly proclaimed by educators, manufacturers and broadcasters than that of radio or film." Television would bring in real world experts, motivate student learning, end educational isolation, and encourage greater democracy. "Students in today's classrooms can be eyewitnesses to history in the making," the Ford Foundation proclaimed in 1961. "They can see and hear the outstanding scholars of our age. They can have access to the great museums of art, history, and nature. A whole treasure-trove of new and stimulating experiences that were beyond the reach of yesterday's students can be brought into the classroom for today's students" (quoted in McKibben, 1992, p. 204). A 1963 *Saturday Evening Post* article describing a French class indicated that televised instruction was an effective teaching method:

> Teaching by television "works" — nobody who has watched a class of children involved with the televised image of Mrs. Ann Slack can have any doubts on the matter. "Ecoutez!" says the pretty Mrs. Slack, pointing the first finger of her left hand out her ear, and the children listen while she says a phrase in French. Then, "Repetez!" says Mrs. Slack, pointing through the set at the children, and they parrot back, but with a surprisingly good accent, what she has said. Children watching a television set in an elementary classroom do not sit limp with slack jaws as they do when they watch a television set at home; they respond with motions and words to what a good teacher on the screen asks them to do. (Mayer, p. 31)

The article continued to say, however, that Mrs. Slack was an exception to the norm, and that most of the available televised instruction was hopelessly bad. "Educational television has failed to contribute anything important to our schools for one simple reason," the *Post* article said. "Most of it [the programming] is terrible" (p. 33).

The first problem plaguing educational television was that it was almost non-existent. Broadcast television as a public medium had been modeled after radio—corporate controlled, and advertising-supported. Commercial broadcasters were quickly grabbing up television licenses as soon as channels came open, and the Federal Communication Commission (FCC) made no effort to reserve any channels for educational purposes. Because these stations were solely interested in making their programs profitable, they invested in easy-to-produce entertainment that satisfied the largest number of people at the lowest possible cost.

Since the television industry had appropriated most of radio's entertainment fare—soap operas, dramas, quiz shows, sports, etc., educational broadcasting was mostly a dim memory from radio days: a headache and not worth the bother. Consequently, television was, like film, a medium that was commercialized *before* it was considered educational. Unlike film, however, members from the television industry made no attempt to tap into any so-called educational market.

In 1949, however, educational television suddenly got a high-profile advocate in Freida Hennock, one of the seven FCC commissioners, and the Commission's lone educational voice (see Balas, 1999). Through Hennock's efforts, a group called the Joint Commission on Educational Television (JCET) was formed, with the aim of reclaiming part of the television spectrum for educational programming. JCET's relative success came from a study it commissioned on the current state of commercial television. A University of Chicago sociologist watched television for 12 straight hours and found no inkling of educational programming whatsoever. His findings were presented at an FCC hearing on educational TV in 1952, and were reinforced by 71 out of the 76 witnesses present (the remaining five supported commercial television interests). Shortly after the hearing, the FCC reserved 252 television channels for education, and in so doing, energized an educational television movement across the country. State legislatures provided construction funds for building stations; universities, colleges and public schools came on board and supplied additional funds; organizational committees began to plan the stations and eventual programming, and national foundations explored the potential of educational television. In Saettler's words, "The history of educational broadcasting in the United States had entered a new era" (1990, p. 362).

This new era was filled with hopes and pitfalls. Once the new educational stations were in place, barely any funding was available to support adequate material. As a visual medium, television had a far more complicated set of variables involved in its production than radio, or even film. To pull off a single production, an educational station needed camera operators; audio engineers; set and lighting designers; engineers; makeup and costume personnel; and studio coordination among a host of producers, floor directors, control room directors, and talent. According to Saettler, programs that actually made it to broadcast were infrequently aired and placed in irregular time slots. Some programming was thrown together a few hours before it was broadcast. Not surprisingly, commercial television broadcasters (who coveted the newly built educational stations) began to criticize the efforts behind educational television. An influx of new money from the Ford Foundation—$70 million between 1955-1965—was an attempt at remedying the sad state of educational television program content (Saettler, 1990). In 1962 the Kennedy Administration also apportioned another $32 million for educational television station construction, even though building new stations would not necessarily help program content. Finally, the Johnson Administration put the Carnegie Corporation in charge of a study to determine the proper function of educational television. The report's findings—that noncommercial instructional television would be ineffective unless it had higher production values, a broader reach, and a new set of objectives—led to the Public Broadcasting Act of 1967 and the establishment of public television (Balas, 1999).

The battle to create the PBS network was a difficult one. Even as advocates, backed by President Johnson, envisioned a sustainable public resource in public television, the institution was compromised from the beginning. Shaped to disseminate "higher culture" values rather than a diverse range of discourse, and aimed at serving the "less attractive" audiences: the over-fifty viewer and viewers under 12 (which at that time, anyway, were not valued by advertisers), PBS

created a legacy of educational shows like *Sesame Street* and *The Electric Company*. The programs were not meant for classroom use. With most of the educational stations becoming PBS affiliates, educational television directed towards the classroom was over.

Videotaped television content, however, began to thrive as an educational supplement beginning in the late 1970s, when videocassette recorder/players entered the consumer market. By the late 1980s, VCRs became a standard addition to many American classrooms and teachers' living rooms. Teachers interested in complementing their instruction with videotaped examples from commercial or PBS television programs could easily tape programs at home, preview particularly helpful sections, and present the material in class as needed. With the additional ability to fast-forward through commercials, pause the tape for discussion, and view it at another point and time (copyrights depending) teachers had a significant amount of control over the technology. Indeed, as cable television offered more and more niche markets, including history, travel (geography), news documentary, movie and nature channels, teachers had more material to choose from, affording them even more control over the often excellent television fare.

Cable television even encouraged teacher videotaping by launching Cable in the Classroom in 1989. The initiative provided public and private schools in the United States with a cable hookup, cable television service and a subscription to the *Cable in the Classroom* newsletter, a listing of programs from cable that can be adapted to classroom use (e.g., A&E's *Biography*, ESPN2's *SportsFigures*; The Weather Channel's *Weather Classroom*). Besides the hookup expenses, the effort did not cost the cable industry much because the programs listed were already produced for existing cable networks. Indeed, since teachers had already established the practice of videotaping cable programs, the Cable in the Classroom initiative more or less legitimized the practice. The industry accommodated teachers further by providing commercial-free versions of specific educational-oriented listings in early morning slots so that teachers could tape uninterrupted versions of the shows and use them in class.

Responsible, sponsor-free television content had arrived for classroom use. But as usual, there was a catch. Schools were still responsible for funding the video equipment and some of the cable service fees and cable guides—in New York State alone this cost would amount to $1 million annually (Sanger, 1990). Much of the listed programming—like "Scooby Doo: The Headless Horseman of Halloween," for example, which was recommended for classroom showing around Halloween—was also clearly aimed at generating larger audiences for established cable fare and network brands. "Our business motivation is always to increase the value of the network," A&E Network spokesperson Dan Davids said in 1990. "If viewers enjoy 'A&E Classroom,' the educational segment, they also may watch other shows on the network, which carries advertising. And the more viewers that like a network, the greater incentive cable operators have to carry it" (Sanger, p. 2).

Since franchises require cable companies to demonstrate that they are responsive to community needs, a cable company's involvement in local educational efforts signals community philanthropy and better ensures the company's contract renewal. Cable programmers also have incentive to create programming that can be slotted into an educational setting in order to enhance their image and better secure a place on the cable lineup. Finally, any industry efforts to cater to education look good to members of Congress who determine cable legislation.

It was the usefulness and familiarity of video technology that prompted many schools to accept Channel One in their classrooms. Established in 1989 by Chris Whittle of Whittle Communications, Channel One is an ad-supported, 12-minute news program sent via satellite to

participating schools. Those schools that participate must require their students to watch the daily program and its accompanying commercials (for products like Coke, Reebok, Hostess Twinkies, and Clearasil) in order to receive in return a videocassette recorder and television monitor for every classroom. The deal has proved so tempting among school administrators hoping to save money on VCR equipment that by 2003, 40 percent of American secondary schools require their students to watch Channel One broadcasts.

Channel One created a new era of educational television. Besides promoting the necessity of video technology in the classroom, the company also won over administrators and educators on its educational television content: slick, student-friendly broadcasts that were sold as a necessary and important way to educate students about world events. In a widely quoted justification during the early years of Channel One, Whittle reportedly argued that students were mixing up Cher and Chernobyl—an obvious indication that they were significantly lacking in news knowledge. Channel One was supposed to remedy these ills. The president of Teenage Research Unlimited, Peter Zollo, would reinforce this point in his book, *Wise Up to Teens: Insights into Marketing and Advertising to Teenagers* (1995). Speaking for his company, Zollo writes:

> Our position is that Channel One is sound programming. It makes news relevant to kids. Its coverage of the fall of the Berlin Wall, for example, opened the eyes of thousands of American teens. Furthermore, teens are bombarded with hundreds of advertising messages every day. Because advertising has become so much a part of their lives, they are quite adept at tuning it in or out. To some, this point alone might not justify in-school TV advertising, but in combination with the quality of the program, we feel comfortable recommending Channel One to advertisers. Another plus for the schools is that Channel One gives VCRs and televisions to schools that air its programming. (p. 83)

Unlike television content taped at home and brought into school, however, teachers have no control over Channel One broadcasts—they are required to turn the 12-minute program on each day and keep the volume knob at an audible level. The Channel One agreement also requires that 90 percent of a school's student body watches the broadcast each day. Keeping the technology working is in the best interest of Channel One, so teachers are not responsible for its upkeep. Consequently, "the technology" is not a problem. What has been a problem has been the broadcast and its two minutes of ads, and the fact that 42 percent of the 12-minute "educational" broadcast amounts to filler, such as promotional content and teasers for upcoming stories (Alexander & Dichter, 2000). At the onset of Channel One's broadcast initiative, a large number of teachers and parents protested the program and called the equipment-for-student attention-arrangement blackmail. Indeed, with an increasing amount of corporate-sponsored curriculum material entering the classroom since World War II, which accelerated all the more during the 1980s and 1990s, Channel One prompted the most explosive anti-corporate response among teachers since the radio era (Molnar, 1996).

Despite Channel One's commercials, questionable news content, and the company's overall business motive, however, many teachers and students in Channel One schools are simply resigned to its daily presence. The Channel One program thrives in schools for a variety of specific reasons not connected to any curriculum choices: the decision to bring not just the technology, but a specific *program* into schools, is made at the administrative, not the teacher,

level. (In some cases, complaints from teachers may indeed jeopardize their relationships with administrators). The administrators, teachers and students who find value in the program are part of a new generation of Americans who are less concerned about commercialized content. Students also watch the program as part of a contract, not a teacher decision. Furthermore, the program, which usually plays during homeroom at the beginning of a school day, stays outside of teachers' individual curriculum content, reducing its pedagogical utility, but also teacher resistance to the program.

Other teachers actually welcome Channel One because it offers them 12 free minutes in the beginning of a very busy day: many use the time to organize their teaching materials. On rare occasions, some teachers counter Channel One's message by introducing media literacy skills during the broadcasts. The majority of students, according to researcher Roy Fox (1996), are also more interested in the entertainment value of Channel One and actually prefer the "fun" advertising content over the more boring news content. "Most students I talked with found many ways to embrace commercials, to trust them, to view advertisers' motives in a positive, trusting way," he wrote (p. 2). This response, of course, is a significant shift from the 1930s when the general consensus among educators and their students was that corporate-sponsored messages necessarily tainted classroom objectives.

In explaining the attitude shift between the 1930s and 1980s, Fones-Wolf (1994) notes that after World War II, the business community aimed at changing these "un-American" attitudes by bringing "a new intensity and sophistication to the task of influencing children" (p. 203). Business gifts to schools amounted to $24 million in 1948, and skyrocketed to $280 million in 1965; the business community manufactured educational crises during the 1950s (and later during the 1980s), and proceeded to "rescue" public schools, while drawing attention to their corporate activities and donations; corporations also brought teachers and students to production centers and manufacturing plants (see Molnar, 1996); they successfully lobbied for economics and business classes (pp. 194-204); and they created increasingly sophisticated teacher aids and curriculum materials (often enlisting teachers in their production). Fones-Wolf provides this interesting data: In 1950, the NAM [National Association of Manufacturers] alone distributed almost four and a half million pamphlets to students, representing a 600 percent increase over 1947. It also doubled school usage of its films between 1947 and 1949; by 1954 over 3.5 million students watched about sixty thousand showings of NAM films. That year, school superintendents estimated that the investment in free material at $50 million, about half the amount public schools spent annually on regular textbooks. At the end of the decade, one in five corporations reported supplying teaching aids." Since teachers unions, at the time, were more focused on immediate political and economic struggles, they did not provide opposition to this longer-term ideological movement. Fones-Wolf (1994) has articulated how the business community was so successful in altering the public's perception of business that it had free hand in schools by the early 1960s. Many teachers and students had been successfully "indoctrinated" with "an economic interpretation that taught that the American economy was 'free, competitive, and individualistic' and must be retained without change" (p. 211).

Both commercialized radio and television also worked as ideological apparatuses for the general public. As Kellner (1990) observed, television was crucial in the post World War II boom period, "because its advertisements promoted consumption and its programs celebrated the joys of the consumer society" (p. 42). Accordingly, Americans have now become inured to nearly 80 years of advertising on radio and television, and teachers have come to expect corporate sponsorship and values invading their schools (Fox, 1996; Molnar, 1996).

Since the 1930s there has been another corresponding economic shift making it sensible for companies to place educational television programs (and other sponsored materials) in schools: The rise of the American youth culture in the 1950s after World War II created a deluge of teen-directed fashions, music, movies, television shows, and promotions for big item products such as stereos and cars. In order to participate in this new culture, more and more young people entered the job market, became consumers themselves, began to increasingly influence their parents' purchases at increasingly younger ages, and came to be recognized as important trend setters who would be spending even more money in the future. The pace of teenage consumption dramatically picked up during the 1980s (the same time when Channel One was developed) and the 1990s (Alexander & Dichter, 2000). Thus, marketing to teens via the media today is in great contrast to the 1930s, when radio broadcasters chose to overlook children in schools and instead target the mothers listening at home. As teenage marketing strategist Peter Zollo put it, "The stereotype of today's teen is a brand-obsessed, label-driven, mall-congregating, free-spending, compulsive shopper. There is often some truth to stereotypes" (p. 22). From a business perspective, then, marketing to teenagers in school, where they are a captive audience, is desirable and profitable, especially when educator concern over commercialism is minimal. Community leaders, according to Alex Molnar (1996) rarely voice ethical or educational objections to school-based marketing, and cast these "partnerships" as beneficial to all parties involved (p. 25).

Broadcast television as an educational technology has thus found its way into the classroom. While the broadcasts are not necessarily successful from an educational perspective, they most certainly are from an economic perspective. The Channel One audience is 50 times the size of MTV's teen audience (Alexander & Dichter, 2000). By targeting ads to teens as effectively as the Super Bowl targets men, Channel One's corporate owner, Primedia, generates $800,000 a day on just two minutes of ads—at advertising rates rivaling prime time television shows (Hays, 1999).

History Lessons for the Internet

In reviewing the history of the educational technology industries (and the educational content that came out of these industries), it is clear that teachers were concerned—and constrained—by their ability to produce or influence educational content. Unable to control content, which inevitably became limited and commercialized by a forprofit agenda, teachers rejected it, and the educational technologies it was played on.

In the case of film, the commercial educational film industry controlled all aspects of film content, except in the few cases when educators acted as advisors to a particular film series. High-quality film content was too expensive and difficult to create given the nature of film production, and most of the available educational films were industry afterthoughts, typically bad, and rejected by teachers. Government extension services solved some access problems (while creating others), but did not solve the quality of available films. Consequently the content –and its accompanying technology—was not successful in schools.

In the case of radio, teachers had a considerable amount of control over radio content early on, and were vigorously supportive of radio production and radio technology as a publicly-owned medium. Given the political and economic context of the 1930s and 1940s, however, and the potential of radio as an advertising-supported mass medium, educators' initial control was eventually usurped by an increasingly powerful radio industry. With a powerful radio lobby (and

the ensuing discord among educators), Congress consistently voted in favor of commercial radio. The radio industry also appeased educators by producing quality educational radio content—with educators' help—during a short but optimistic period. The industry's monopoly over public airwaves, however, meant that commercial broadcasters would eventually choose to broadcast only that material which generated the most profits. Because educational radio programs were decidedly not as profitable for the radio industry as other programs, they disappeared altogether, and as a consequence, radio became less and less useful to schools. The content disappeared, and so did the technology.

During the early years of television, educational content for schools was nonexistent because business interests controlled the medium. When educational stations were eventually developed (due to significant government and nonprofit initiatives), the nature of the medium proved too difficult and too expensive for educators to create valuable educational programs. VCR technology changed that to a large extent, bringing valuable curriculum supplements to classrooms that had high production values and were significantly under teachers' control. The cable television industry has successfully re-packaged some of its programming for educational purposes. While teachers like the control they have over cable's offerings, the cable industry has more chances to introduce teachers and their students to its "brands." Channel One, on the other hand, does not rely on teacher acceptance for its success: its presence is due to administrators, not teachers. Channel One, the commercially charged in-school broadcast of our current era, is economically, not pedagogically successful.

In light of the history of educational media, the central question to be asked about the future of internet technology is also economic—namely, under what auspices should online educational content be presented—commercial or nonprofit? Given the internet's democratic structure; essentially unlimited space; the comparatively low production costs of locating, listing, and organizing web links; and ease of producing original pages; will the internet be an educator's medium? Will educators be, as with the radio era, heavily involved in (and enthusiastic about) creating pedagogically valuable curriculum content? Will educators (and others) be critical of corporate-dominated netspaces, and incorporate media literacy initiatives into the curriculum to better understand the United States' corporate-controlled media systems?

Alternately, if internet educational content becomes dominated by commercial fare that is acceptable to schools and educators, which happened with radio, will educators be less likely to create nonprofit alternatives? Will educators become so used to a corporate-sponsored internet environment that ambitious and worthwhile nonprofit ventures get edged out? Will commercial online educational ventures, like Channel One in the educational television sector, successfully harness the youth market for profit, and as such, potentially exploit student users? Will the educational content accessible on the internet become, like educational film, radio, and television, so commercially dominated that it becomes pedagogically compromised?
Finally, even if commercial ventures eventually dominate the online educational scene, will it matter at all if a profit motive, not an educational motive, drives web page access and content? Should we trust that commercial educational portals will work with educators and invest heavily in locating quality links, with a traditional journalistic firewall separating the business and editorial departments? Should we trust that commercial search engines will develop as trustworthy and reliable information services? Should we expect that students will have valuable educational opportunities online, regardless of the internet's commercialization?