

Policy-making in the public interest: a contextual analysis of the passage of closed-captioning policy

Jennifer L. Gregg*
University of Louisville, USA

In 1990 the United States Congress approved the Television Decoder Circuitry Act, which mandated that all television sets 13 inches or larger for sale in the United States be manufactured with caption-decoding microchips. This legislation allowed millions of deaf and hearing-impaired people throughout the US access to captions on commercials and television programs. Access to technology is one determinant of who can participate in the social, cultural, political and economic facets of a society. Scholars recognize that communication processes in the public sphere often are unbalanced. Access to media outlets creates a gap between those with media power and those without. Using a contextual analysis framework supported by a social model of disability, this paper defines the roles of parties involved in the passage of closed-captioning legislation and highlights how social forces were successful in passing legislation beneficial to the Deaf and Hearing-impaired community.

Access to technology is one determinant of who can participate in the social, cultural, political and economic facets of a society (Mansell, 1993). Access, however, does not guarantee that resources and skills will be available to users who wish to take advantage of the technology. Often the factors surrounding access are important in determining whether all who wish to use a technology will be able. Public policy is often necessary to ensure that those who face barriers to access are given opportunities to use services as they become available. An important consideration in the policy-making process is *who* is influential in passage of legislation and whether the policy will extend access to services or create new barriers to users. Policy analysis often focuses on characteristics of the corporate and public policy environments that are conducive to sustaining powerful business interests; the fundamental issues associated with those most affected by the legislation are often neglected (Mansell, 1993).

*Department of Communication, University of Louisville, 301 Strickler Hall, Louisville, KY 40292, USA. Email: jennifer.gregg@louisville.edu

In 1990 the United States Congress approved the Television Decoder Circuitry Act, which mandated that all television sets 13 inches or larger for sale in the United States be manufactured with caption-decoding microchips. This legislation allowed millions of deaf and hearing-impaired people throughout the US access to captions on commercials and television programs. The Telecommunications Act of 1996 amended the Circuitry Act by requiring that video programming be fully accessible through closed captioning.

Contextual analysis can be used to disentangle the forces that shaped this policy decision. Using a framework borrowed from Mansell (1993), two contrasting models of policy adoption will be considered. The first is referred to as the idealist model, in which technology and policies that affect technological adoption are considered a 'cure' for the world's problems. The second, the strategic model, seeks to provide a reality-based analysis of the policy-decision process. For example, individuals and organizations interested in the passage of legislation try to emphasize positive aspects of the legislation through the media, gaining public acceptance and support. On the other hand, parties interested in seeing legislation fail may try to emphasize powerful economic forces that have an impact on the policy decision-making process, and turn the debate into one of government partisanship.

This analysis is further shaped by current models of disability. Most legal development has been characterized by either the medical/individual model or the social model of disability (Baker & Kaufman-Scarborough, 2001). The medical model places disability at the center of limitations for people with disabilities, while the social model 'considers society itself disabling' (p. 298). It defines disability as an impairment that must be treated or corrected, often placing people with disabilities in the category of 'victim', who cannot fit into the mainstream of society. The medical model of deafness asserts that 'deafness is the pathological absence of hearing' and that people who are hearing-impaired are disabled because of flawed hearing (Senghas & Monaghan, 2002, p. 78). The emphasis of the medical model, changing the individual to fit society, has no doubt further stigmatized people with disabilities.

The social model, on the other hand, focuses on the environment in which people live. A person with an impairment rightfully belongs in the mainstream of society. It is not the impairment that is disabling, but the surroundings that limit the person's abilities (Baker & Kaufman-Scarborough, 2001). The social model focuses attention on aspects of the environment that restrict some people from full participation in society, not on individual 'victims' of disability (see also Burchardt, 2004). A social model of deafness asserts that deafness is one among many human variations, and that deafness allows for many human adaptations (Senghas & Monaghan, 2002). The social model, therefore, situates people in a larger social structure or community.

The purpose of this paper is two-fold: (1) to highlight the roles of the parties involved in the passage of closed-captioning legislation; and (2) to define the context in which these forces shaped the legislative process. The analysis centers on the social system surrounding the policy-making process – the context of power within which a communication policy is adopted. This study provides a realistic account of the strategic and tactical maneuvers of multinational firms, political actors and other

economic determinants of the passage of closed-captioning legislation. Using contextual analysis (see Mody, 1987; Culbertson & Jeffers, 1992) to create a framework for discussion, this paper attempts to reveal which forces had or might have had power to influence policy decision-makers during the policy decision process. Furthermore, it will illustrate how strategic decisions are made and will demonstrate how a contextual framework can be used to analyze the decision-making process for other legislation.

Captioning in the United States

Captions are subtitles hidden within normal television broadcasts and on videotapes, which permit deaf and hearing-impaired people to see what they cannot hear. There are two types of captioning – open and closed. Open captions always appear on the screen and cannot be turned off by the viewer. Closed captions, on the other hand, must be decoded using a television decoder or built-in decoder chip to be seen. Closed captioning is the process of converting captions to electronic codes and inserting them into line 21 of the regular television signal. In the United States, the television picture consists of 525 lines flashing on the screen. Line 21, the vertical blanking interval (VBI) at the top of the screen, is not normally seen in the television picture. There is no service fee for viewing captions because captioning is provided by the television and home video industries with the support of grants and donations.

Closed-captioning service in the United States officially started in March 1980, but most of the political and technological decisions were made long before that time (see Figure 1). In 1970 the National Bureau of Standards, in cooperation with the ABC television network, began to investigate the use of the VBI to send precise time information on a national basis (National Captioning Institute Incorporated (NCI), 2005). The project was not successful; however, ABC determined it would be possible to send captions instead. Later that year two programs were developed with open captions. The Public Broadcasting Service (PBS), a private, nonprofit corporation founded in 1969 as part of the Corporation for Public Broadcasting (CPB), became the first network to broadcast programming accessible to deaf and hearing-impaired viewers (PBS, 2005). The CPB was created by the US Congress in 1967 through the Public Broadcasting Act to fund public television and radio stations (CPB, 2005). It is a private, nonprofit organization that receives the majority of its funding from private businesses and memberships. It also receives money from the federal government from taxpayer support (PBS, 2005). In 1971, PBS began broadcasting ‘The French Chef’ and re-broadcasting the ABC news on time-delay with open captions (NCI, 2005). At this same time, the ABC News became the first newscast accessible to the deaf and hearing-impaired audience (NCI, 2005).

The following year, two technologies for closed-captioning television programs were demonstrated at the First National Conference on Television for the Hearing Impaired. At that time captions could be seen only with sets specifically equipped for deaf and hard-of-hearing viewers. In a demonstration at Gallaudet College one year later, ABC and the National Bureau of Standards broadcast the first closed captions

embedded within a normal television program (NCI, 2005). The National Association of Broadcasters (NAB), a national lobbying organization that represents the radio and television industries before federal regulatory agencies and courts, became interested in closed-captioning technology at this time (NAB, 2005). The NAB determined in 1972 that closed-captioning was technically, but not economically, feasible for broadcasters without changes in broadcasting regulation (NCI, 2005). The federal government agreed to study the development of a national closed-captioning system, and PBS began work on the project in 1973 under contract to the Bureau of Education for the Handicapped of the Department of Health, Education and Welfare (NCI, 2005). Later that year the first closed-captioning system using the VBI was successfully tested on WETA in Washington. The Federal Communications Commission (FCC) set aside the VBI for transmission of closed captions in the United States as a result of this test, and since 1976, the FCC has reserved line 21 of the television signal for broadcasting closed captions (DuBow, 1991). PBS began working in earnest at this time on editing equipment to encode prerecorded programs and on caption decoders.

PBS, in conjunction with the Department of Health, Education and Welfare, determined that it would be necessary to encourage participation of commercial television networks. In 1979 the National Captioning Institute (NCI), a non-profit organization, was established by Congress for the sole purpose of encoding captions into commercial programs (DuBow, 1991; NCI, 2005). That same year the Silent Network began providing advertiser-supported programming for the deaf and hearing-impaired in Los Angeles. By the late 1970s, the Commission on Education of the Deaf (COED) stated that 'captioning of TV ... is the most significant technological development for persons who are deaf' (COED, 1988, p. 112). In 1980 the first closed-captioned television series was broadcast with technology established through NCI. Public demand encouraged development of real-time captioning and in 1982 the first live captioned program was broadcast. In 1983 the Silent Network began providing programming nation-wide via satellite to 400 cable television systems (Bloomquist, 1988). Advertisers including IBM, Hallmark and Ford were offered six-month contracts for programming on the network.

Sears, a US department store and mail-order catalogue, began selling set-top decoders to the general public in 1980, and producers were encouraged to encode their programs (Maitland, 1996). That year ABC, NBC and PBS agreed to caption up to 20 hours of programming per week (Gottfried v. FCC, 1981, 655F.2d 297). In 1984 CBS also agreed to transmit closed captions, and by 1989, closed captions through the use of a decoder were available for all primetime programs and most major sporting events (DuBow, 1991).

The set-top box was expensive and difficult to install, however. In 1990, after being available for ten years, the decoders sold for approximately \$150 and were in only 300,000 homes in the United States (Hearing on television closed captioning, 2 May 1990). Although there were approximately 24 million deaf or hearing-impaired Americans in the USA at this time, it was unlikely that television manufacturers would integrate the chip into sets while keeping the price lower than that of

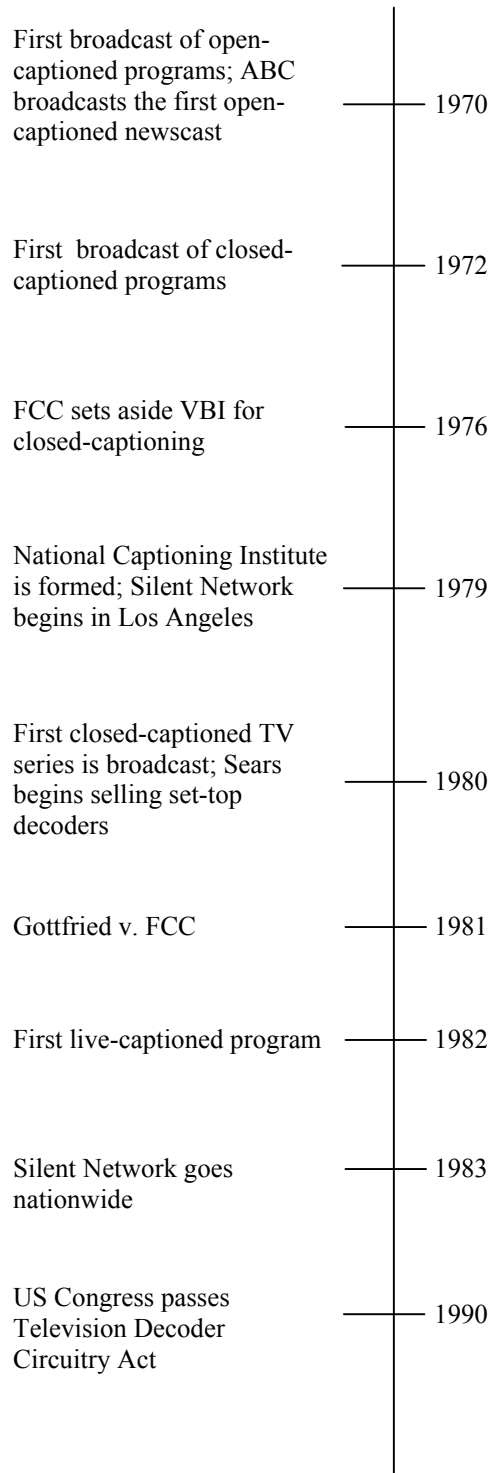


Figure 1. Timeline of Closed Captioning Technology and Policy

the set-top decoders. To resolve this problem, NCI approached the government, and in 1990 HR4267 was introduced into the US House of Representatives (Maitland, 1996). NCI partnered with the ITT Corporation that same year to develop the first caption-decoding microchip to be built directly into new television sets.

Television Decoder Circuitry Act

The Television Decoder Circuitry Act (TDCA), signed into law in October 1990 and effective on 1 July 1993, was designed as a supplement to the Americans with Disabilities Act (ADA), which was implemented earlier that year (DuBow, 1991). The Americans with Disabilities Act covers closed captioning by requiring that television public service announcements funded with federal monies be closed captioned. Also, it requires public accommodations such as hotels to provide aids such as decoders in cases where doing so would not result in undue hardship (DuBow, 1991). The ADA reflects a social model of disability, wherein all consumers have the right to effective forms of communication.

Closed captioning was debated in a public forum prior to passage of the ADA, however. In the early 1970s the FCC recommended that broadcast stations visually as well as verbally transmit emergency messages (The use of telecasts to inform and alert viewers with impaired hearing, 1970, 26 F.C.C.2d 917). In the mid-1970s, the FCC proposed regulations mandating this recommendation. The proposal, however, was rejected because some members of the Commission felt the requirement may discourage stations from transmitting the emergency messages at all (Gottfried *et al. v. Federal Communications et al.*, 1981). The needs of the nation's hearing-impaired were being considered in the court system by 1980. According the Communications Act of 1934, the FCC must consider the 'public interest' when issuing or renewing broadcast licenses (Gottfried *et al. v. Federal Communications et al.*, 1981). In *Gottfried v. FCC*, the District of Columbia Circuit Court of Appeals held that the public interest requirement includes serving the needs of the deaf and hearing-impaired (Gottfried *et al. v. Federal Communications et al.*, 1981). Gottfried, who is hearing-impaired, petitioned the FCC to deny licenses to eight television stations in Los Angeles for failing to meet the public interest standard and failing to meet requirements imposed by the Rehabilitation Act of 1973. The FCC denied Gottfried's petitions and said she had 'failed to allege specific facts which raised any substantial or material question as to whether a grant of the renewal applications before us would serve the public interest, convenience, and necessity' (Gottfried *et al. v. Federal Communications et al.*, 1981).

Gottfried appealed the FCC decision to the circuit court of appeals, and the court required the FCC to consider the needs of the deaf and hearing-impaired as part of the license-renewal process of a public television station in Los Angeles. The court did not require the FCC to consider the needs of the hearing-impaired by commercial stations (Gottfried *et al. v. Federal Communications et al.*, 1981). The court based its decision on Section 504 of the Rehabilitation Act, citing that the Act applies to the

public station because it receives federal appropriations, while the private stations do not. Section 504 prohibits recipients of federal funds from discriminating against any handicapped individual solely on the basis of handicap (Fothergill, 1984). A violation of Section 504 would be contrary to the public interest standard of the Communications Act. By requiring the FCC to consider the needs of the hearing-impaired community, the court expanded the definition of public interest based on what it considered a national policy of nondiscrimination against the disabled (Gottfried: comments, 1982). Ironically, *Gottfried* expanded the public interest standard for license renewal of *non-commercial* stations. As noted earlier, public broadcasters had already taken the lead in providing programming for the hearing-impaired community years prior to *Gottfried v. FCC*, 1981.

The public station then appealed the case to the Supreme Court of the United States, where it was reversed. The Supreme Court held that the FCC need not hold the public station to a more stringent standard than the commercial station (*Community Television v. Gottfried et al.*, 1983). The court made its determination based on jurisdiction over federal policy. The court said the FCC did not have to consider Section 504 because it was not responsible for enforcement of the policy, which is traditionally reserved for governmental agencies which administer federal funds (Fothergill, 1984). In the dissenting opinion, however, Justices Marshall and Brennan asserted that agencies must consider other federal statutes that are pertinent when making administrative decisions (*Community Television v. Gottfried et al.*, 1983). The dissenting opinion infers that the court should have considered the 'public interest' above Section 504 of the Rehabilitation Act.

In early 1989, as members of the US Senate began writing a new draft of the Americans with Disabilities Act, the issue came up as to whether the ADA should require the broadcasting industry to close-caption all programs, or whether separate legislation should require built-in circuitry (DuBow, 1991). Legislation requiring built-in circuitry would create a market incentive for broadcasters to provide more closed-captioned programming, while government mandates for closed captioning might receive strong opposition by the networks (DuBow, 1991). Captioning industry representatives believed that broadcasters would look more favorably on legislation increasing viewership through requiring built-in decoders. Writers of the ADA decided at this time to create separate legislation requiring built-in circuitry rather than include mandatory captioning and risk broadcast-industry opposition that might cause failure of the ADA to pass.

In addition to requiring all sets 13 inches and larger to have the ability to decode closed captions without external equipment, the TDCA requires the FCC to establish performance and display standards for built-in circuitry (DuBow, 1991). The standards require that new technology allow captions to appear anywhere on the screen (DuBow, 1991). Also, the captions must be displayed against a black background. Furthermore, the FCC requires that new television technologies, such as high definition TV, be able to receive closed captions without separate decoders. Finally, the 1996 Telecommunications Act requires 100% of all broadcast programming be captioned beginning in 2006 (ADAwatch.org, 2004).

Analysis

The overview above provides the background for conducting an analysis of the forces involved in passage of closed-captioning legislation. Contextual analysis is the study of the role of the group context on actions and attitudes of individuals (Iversen, 1991). It provides a framework for studying the policy adoption process by defining the social, political and economic contexts surrounding the policy issue. Keep in mind the assumptions of the idealist and strategic models: the idealist considers information technology to be the basis for universal service diffusion (Mansell, 1993). Technical and organizational constraints will be overcome as a result of declining costs of extending services, and competition will result from the demand of services by the members of the society. The idealist model assumes that technical innovation and competition will drive the diffusion of a technology. In the idealist view, there is no need to implement policy in order to assure the spread of technology because those interested in seeing the adoption of a technology will drive its adoption through fair and free competition (Mansell *et al.*, 1995). In this case, the market would assure the adoption of closed-captioning policy through competition.

In contrast, the strategic model presumes that economic and political interests that become embedded in the implementation of a technology, or in this case a technology policy, will not be able to lead to adoption of that policy (Mansell, 1993). Free competition is not a likely outcome in a market dominated by a few actors who will try to avoid non-profitable consumers or sectors of the population (Mosco, 1990; Collings, 1994). In this case, there will be little market incentive for captioning policy, and those with the market power will in fact deter its passage. The Deaf community will not have enough market power to drive adoption of the closed-captioning policy; the policy will be driven by those who desire new ways to maintain market power. Because of this market failure, there will be little progress toward public service objectives without regulation. The idealist and strategic models were developed as a means to understand universal service provisions in free markets. Universal service typically refers to telecommunication technologies themselves, such as the telephone, and though it is not a perfect analogy to closed-captioning policy, closed captioning is in fact an access issue for those who are hearing-impaired. Without access to closed captioning, the Deaf and Hearing-impaired community would be cut off from important emergency information, as well as entertainment programming.

As noted earlier, the contextual analysis of closed-captioning policy is further shaped by a social model of disability. For example, the social model centers the cause of disability in the economic, political and cultural settings in which people with disabilities live (Race *et al.*, 2005). Even though it has been criticized (see Harris, 2000; Dewsbury *et al.*, 2004; Terzi, 2004), it can be used to shape the policy analysis in the current case by helping to understand how society at the time viewed persons who were deaf or hard of hearing. Furthermore, the social model challenges society to move beyond disabling policies and practices.

According to Iversen (1991), one task in a contextual analysis consists of identifying the group or groups that are thought to be relevant. The introduction and passage

of public policy frequently is influenced by economic, political and social contextual factors that surround it. Depending on the specific time and place, relevant economic players could include manufacturers of hardware and software, transnational corporations and foreign political powers. Social factors could include the influence of a dominant elite, interest groups based on religion or other cultural variables, sex roles and traditional family norms, to name a few. Finally, political factors could include the roles and relationships of equipment manufacturers, lobbyists and legislators.

Using a framework provided by Culbertson and Jeffers (1992), the social, economic and political factors that played a direct role in passage of closed-captioning legislation were as follows

Social context

1. *Cultural and subcultural beliefs of the society and the legislators making the policy decision.* These ideas deal with 'what is', 'what's right' and 'what's important'. They serve as bases for defining one's world. As a result of socialization, almost everyone in a society, or a well-defined subgroup such as those practicing a particular occupation, share such beliefs. For example, most Americans believe in the freedom of speech, based on the First Amendment to the US Constitution. This right allows for the free exchange of ideas. In other words, not only do Americans have the right to say what they believe, but also they have the right to listen to or ignore others' ideas. This right extends to closed captioning. Most Americans believe that all people, including those who are deaf or hearing-impaired, should have access to information. The social model asserts that disability is caused by institutional and social discrimination (Terzi, 2004). The court in *Gottfried v. FCC* incorporated a perceived national policy of nondiscrimination toward people with disabilities in its decision. The court determined the issue was one of significant national concern. This is supported by the social model argument for full inclusion and acceptance in society, with equal entitlements, rights and responsibilities for people with disabilities (Oliver, 1996; Thomas, 2002).

2. *Contacts with individuals, communities and organizations interested in success or failure of the policy.* Such contacts may be characterized as to frequency, level of formality, friendliness, comprehensiveness and accuracy of information conveyed. Among those interested in passage of legislation supporting mandatory captioning was Marlee Matlin, a deaf actress who won an Oscar for her role in the movie *Children of a Lesser God* (Hearing on television closed captioning, 2 May 1990). Her testimony brought national celebrity to the policy decision process. Furthermore, according to the social model, her testimony supports passage of captioning legislation by advancing the direct experience of those most involved, people who are deaf or hard of hearing (see also Oliver, 1990, 1996).

The Deaf community itself played an important role in the captioning debate. Television network CBS initially did not want to caption its programs because it

wanted to use teletext technology instead (Berke, 2006). The Deaf community actively protested the network, and by 1984 CBS agreed to broadcast captions on line 21 (Berke, 2006). More recently, the Deaf community has called for stricter enforcement of the TDCA. Even though a large number of programs are being captioned, the captioning is often filled with errors or terminated before the end of the program, effectively limiting programming available to the Deaf and Hearing-impaired community (ADAWatch, 2004).

3. Frames of reference and standards of comparison for the decision makers. According to Helson (1964), people inevitably interpret quantities with reference to some standard. In other words, judgments and beliefs influence the way people make assessments. As noted earlier, the Television Decoder Circuitry Act requires all television sets 13 inches and larger to be able to decode closed captions without the aid of external equipment. 'In 1988, ninety-six percent of new televisions had screen sizes of thirteen inches or larger' (Electronics Industry Association, cited in DuBow, 1991, p. 616). The Electronics Industry Association (EIA), a national member association which represents television manufacturers, initially opposed the legislation, suggesting instead that only one model for each screen size, beginning with sets with screens 21 inches and larger, be equipped with built-in decoder circuitry (DuBow, 1991). According to Senate testimony (Hearing on television closed captioning, 2 May 1990) this would mean that fewer than 40% of TV sets, and only the more expensive, larger sets, would be able to receive closed captions. Proponents of the original plan said this recommendation by the EIA defeated the purpose of the bill. They argued that the size limitation suggested by the EIA would make it more difficult for those who could most benefit from closed captions and would present the same difficulties in finding sets with built-in decoders. Furthermore, the size limitation would present the same stigma problems as the standalone decoders (Hearing on television closed captioning, 2 May 1990).

Political context: activities and strategies of political actors

It is important to note that the social processes discussed above become political arguments when they involve efforts to gain power and resources. For example, proponents used several arguments to persuade Congress of the need for decoder chips in all television sets.

The first argument concerned the social stigma attached to hearing problems. Those in favor of mandatory decoder chips argued that if the chip was not required in all sets, the need to special order sets with a decoder chip would discourage those who were embarrassed about their hearing problem (Hearing on television closed captioning, 2 May 1990; Maitland, 1996). Also, it was argued that if special ordering was required, those who needed such a set might not be aware of the availability or there might be a lack of knowledge on the part of salespersons. Proponents also argued that closed-captioning technology would benefit the illiterate – another

condition with a social stigma – in addition to the hearing impaired. Finally, they argued closed captioning would benefit the large US immigrant population learning English as a second language. In fact, by some estimates, more decoders were sold to hearing users with English as a second language than to members of the hearing-impaired community (Berke, 2006).

As noted earlier, proponents of the Act argued that all sets 13 inches and larger should be required to include the decoder chip. During negotiations the Electronics Industry Association suggested that chips only be placed in sets 21 in. or larger. This would, in effect, allow manufacturers to encourage buyers to consider the larger, more expensive sets. EIA also claimed that demand for set-top boxes could be increased by mandating that broadcasters and producers encode more programming and therefore the decoding chip was not necessary in television sets. They maintained that the chip was unnecessary because the technology could be incorporated into cable set-top boxes, which, they argued, were already available in half of all American homes. By placing the decoding technology in cable boxes, consumers would not need to purchase new television sets to access the technology (Friel, 1990).

Economic context

1. Availability of resources of those affected by the legislation. Those in favor of closed-captioning legislation stated that the cost of a separate decoder might be an economic hardship for many deaf and hard-of-hearing individuals (DuBow, 1991). They estimated the cost of a decoder to be between \$160 and \$200, and a 1986 survey found that two-thirds of all disabled Americans between the ages of 16 and 24 were not working (DuBow, 1991). Furthermore, the majority of senior citizens with hearing loss had an annual income of less than \$25,000 (Hearing on television closed captioning, 2 May 1990). Also, the difficulty of installing the set-top decoders may have severely limited the number of decoders purchased. According to Senate testimony, the difficulty of installation, both real and perceived, intimidated both deaf and hard-of-hearing people, especially senior citizens (Hearing on television closed captioning, 2 May 1990; DuBow, 1991).

2. Costs associated with implementing the legislation. Legislation of any type has economic outcomes. Cost containment is often a major consideration of those involved in the decision process. According to the Commission on the Education of the Deaf, because so few separate decoders were purchased there were few commercial incentives for private funding of captioning (COED, 1988). The COED said the absence of funding was one of the main impediments to a self-sustaining captioning service. Because there was no market incentive, many television programs and videocassette movies were not being closed captioned prior to passage of the Decoder Circuitry Act (COED, 1988). The National Captioning Institute estimated that it costs \$2,500 and takes 20 to 30 hours to close caption a one-hour program (DuBow, 1991). According to NCI, 500,000 homes would need to be able

to receive closed-captioned programs to maintain the level of captioned programs in 1989. As of June 1990, only about 300,000 decoders had been sold. The President of CBS sports said the cost of captioning programs and the limited number of viewers made it difficult to justify expanding the number of programs being captioned at that time (Hearing on television closed captioning, 2 May 1990). Congress recognized that it was necessary to increase the audience for captioning to provide market incentives to increase the number of programs being captioned. It was a classic market stalemate: decoders weren't being sold because there were not enough captioned programs, and programs weren't being captioned because there weren't enough decoders being sold.

Discussion and conclusions

Proponents of the Television Decoder Circuitry Act won their original proposal, arguing that the difference in price between 13- and 21-inch sets, and the expense of cable subscriptions, could potentially price many people, especially those on a fixed income, out of the market. The Television Decoder Circuitry Act, signed into law in October 1990 by President Bush, mandated that by mid-1993 all new television sets 13 inches or larger, manufactured for sale in the United States, must contain caption-decoding technology.

Several forces played a role in passage of the Television Decoder Circuitry Act. Two primary opposing forces were the NCI and EIA, representing Strategic and Idealist perspectives. The National Captioning Institute was created in 1979 with federal funds, to promote and facilitate closed captioning of television broadcasts for the benefit of the deaf and hearing-impaired. Creation of NCI was a result of the need for economic incentive to broadcasters to provide captioning. The organization was seen as meeting a social need for the deaf and hearing-impaired audience. EIA, on the other hand, represented strong economic forces opposed to closed-captioning legislation as proposed in 1990. From an idealist perspective, these economic forces should have been able to sway policy makers away from the legislation as written. The Television Decoder Circuitry Act, however, mandated that manufacturers of television sets make changes in the sets at the production stage without significantly increasing the price above the cost of the technology itself.

Using the strategic approach described by Mansell (1993), this research shows that social forces in favor of the Television Decoder Circuitry Act were successful in passing legislation by going directly to policy makers after testing potential technologies, rather than making claims to the popular press. This analysis shows that cultural, economic and political forces were all responsible for passing closed-captioning legislation. Using this framework for study provides insight into possible forces in other legislative efforts. In the case of the Television Decoder Circuitry Act, the social forces seemed to 'win out'. This framework could just as easily be used to show political and economic forces that influence other public policy decisions.

References

- ADAWatch.org (2004) *National organizations call on FCC to address quality issues in closed captioning*. Available online at: <http://adawatch.org/ClosedCaptioning.htm>. (accessed 25 February 2006).
- Baker, S. M. & Kaufman-Scarborough, C. (2001) Marketing and public accommodation: a retrospective on Title III of the Americans with Disabilities Act, *Journal of Public Policy and Marketing*, 20(2), 297–304.
- Berke, J. (2006) *Deaf history – history of closed captioning*. Available online at: <http://deafness.about.com/cs/featurearticles/a/historycaptions.htm> (accessed 25 February 2006).
- Bloomquist, R. (1988, January 18). Advertisers reach out to deaf and hearing-impaired; captioning provides a needed service and expanded audience for ad messages, *Adweek*, p. 1.
- Burchardt, T. (2004) Capabilities and disability: the capabilities framework and the social model of disability, *Disability & Society*, 19(7), 735–751.
- Collings, J. J. (1994) Managing the process of sector reform, in: B. Wellenius & P. A Stern (Eds) *Implementing reforms in the telecommunications sector. Lessons from experience* (Washington, DC, The World Bank).
- Comments (1982) Gottfried v. FCC: the public interest standard and broadcaster responsibility to the hearing-impaired, *University of Pennsylvania Law Review*, 130, 957–980.
- Commission on Education of the Deaf (1988) Hearing before the Sub committee on Select Education of the Committee of Education and Labour (Washington, DC, US Government Printing Office).
- Community Television of Southern California v. Gottfried, et al. (1983, February 22). 459 U.S. 498.
- Corporation for Public Broadcasting (2005) *History of public broadcasting*. Available online at: <http://www.cpb.org/about/history> (accessed 4 February 2005).
- Culbertson, H. M. & Jeffers, D. W. (1992) Social, political, and economic contexts: keys in educating true public relations professionals, *Public Relations Review*, 18(1), 53–65.
- Dewsbury, G., Clarke, K. Randall, D., Rouncefield, M. & Sommerville, I. (2004) The anti-social model of disability, *Disability & Society*, 19(2), 145–158.
- DuBow, S. (1991) The television decoder circuitry act – TV for all, *Temple Law Review*, 64, 609–618.
- Fothergill, T. W. (1983/1984) Comments: *Community Television of Southern California v. Gottfried*: defining the role of the television industry in serving the needs of the hearing impaired, *New England Law Review*, 19, 899–916.
- Friel, T. P. (1990) Prepared statement to House of Representatives Committee on Energy and Commerce, Subcommittee on Telecommunications and Finance, Washington, D.C.
- Gottfried et al. v. Federal Communications Commission et al., 17 April 1981, 655F. 2d 297.
- Harris, J. (2000). Is there a coherent social conception of disability? *Journal of Medical Ethics*, 26, 95–100.
- Hearing on Television (based Captioning, 2 May 1990, United States Congress).
- Helson, H. (1964) *Adaptation level theory* (New York, Harper and Row).
- Iversen, G. R. (1991) *Contextual analysis* (Newbury Park, CA, Sage Publications Inc.).
- Maitland, C. (1996) The V-chip: history and analysis. Unpublished manuscript, Michigan State University.
- Mansell, R. (1993). *The new telecommunications: a political economy of network evolution* (London, Sage Publications, Ltd.).
- Mansell, R., Davies, A. & Hulsink, W. (1995) *The new telecommunications in the Netherlands: strategic developments in technologies and markets* (The Hague, Rathenau Institute).
- Mody, B. (1987) Contextual analysis of the adoption of a communications technology: the case of satellites in India, *Telematics and Informatics*, 4(2), 151–158.
- Mosco, V. (1990) The mythology of telecommunications deregulation, *Journal of Communication*, 40, 36–49.

- National Association of Broadcasters (2005) *Welcome to NAB*. Available online at: <http://www.nab.org/about/message.asp> (accessed 4 February 2005).
- National Captioning Institute Incorporated (2005) *A brief history of captioned television*. Available online at: <http://ncicap.org/caphist.asp> (accessed 4 February 2005).
- Oliver, M. (1990) *The politics of disablement: a sociological approach* (New York, St. Martin's Press).
- Oliver, M. (1996) *Understanding disability: from theory to practice* (New York, St. Martin's Press).
- Public Broadcasting Service (2005) *The public broadcasting service: an overview*. Available online at: http://www.pbs.org/aboutpbs/aboutpbs_corp.html (accessed 4 February 2005).
- Race, D., Boxall, K. & Carson, I. (2005) Towards a dialogue for practice: reconciling Social Role Valorization and the Social Model of Disability, *Disability and Society*, 20(5), 507–521.
- Senghas, R. J. & Monaghan, L. (2002) Signs of their times: deaf communities and the culture of language, *Annual Review of Anthropology*, 31, 69–97.
- Television Closed Captioning (2 May 1990) Hearing before the House of Representatives, Committee on Energy and Commerce, Subcommittee on Telecommunications and Finance (Washington, DC, United States Congress).
- Terzi, L. (2004) The social model of disability: a philosophical critique, *Journal of Applied Philosophy*, 21(2), 141–157.
- Thomas, C. (2002) Disability theory: key ideas, issues and thinkers, in: C. Barnes, M. Oliver & L. Barton (Eds) *Disability studies today* (Cambridge, Polity Press), 38–57.