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Abstract

During the past few years, along with the increasing interest in movies in EFL classrooms, awareness of and interest in the use of closed captions has been growing among teachers, students and researchers. Because this interest is relatively recent, however, research in this area is very limited in Japan. This paper reports on the results of research studies on closed-captioned television or video materials conducted during the past 15 years in the United States where this technology was originally developed, and suggests what implications this may have for the EFL classroom in Japan. The findings appear to confirm the view that captioned video materials are a powerful motivating tool and can be successfully used in Japan not only for improving students' listening comprehension, but also for reading and vocabulary development. Suggestions for further research are also included.

Introduction

In the past few years more and more EFL teachers in Japan have begun to use movie videos in the classroom. As increasing number of EFL programs begin to integrate video materials into their curricula, more attention is being focused on ways and means to optimize the student's comprehension of the language of such film segments. Along with this increasing interest in movies in the field of EFL, awareness of and interest in the use of closed captions have also been growing among teachers, students and researchers (Bragoli, 1993;

Shang-Ikeda, 1994). Because this interest is relatively recent, however, research in this area is still limited in Japan, and there is a need to further explore the potential of captioned television or video materials.

The purpose of this paper is to report on research studies on closed-captioned television or video materials conducted during the past 15 years in the United States where this technology was originally developed, and to suggest its implications for the EFL classroom in Japan. After briefly reviewing the history and current situation of closed captions, as well as the range of captioning available, this article reports research studies with ESL students, followed by studies on remedial students and on students with normal reading ability. Finally, there will be a discussion of the implications of closed captions for the EFL classroom in Japan, and suggestions will be made for further research.

Closed Captions – An Introduction

Closed Captions are subtitles that can be seen only on television sets equipped with a separate or built-in electronic telecaption decoder, with the captions appearing at the bottom or top of the screen, synchronized with the dialogue or narration of the program's audiotrack. The very first television transmission of "closed-captioned" programming was begun in March 16, 1980 by the National Captioning Institute (NCI) in the United States (Garza, 1991).

From the original 16 hours of closed captioned programming offered during the first week of its inception, the number of closed captioned programs increased steadily to over 400 hours per week in 1990, and today, there are more than 800 hours of live and prerecorded network and public programming per week (National Captioning Institute, 1993). Almost all prime-time TV programming – news, dramas, documentaries, situation comedies, children's programs, sports events, movies, commercials, and special reports – is

captioned. In addition, shortly after the inception of closed-captioned television, closed captions were added to the majority of commercially produced videotapes on the American market, including feature-length motion pictures, educational and “how-to” videos, children’s programming, and animated features. These videos are readily identifiable by a “CC” mark or a small symbol, like a black TV with a tail on the videotape package, and now more than 5,000 captioned videos are available for rent or purchase at video stores.

In line with the ever-increasing spread of captioned software, the Television Decoder Circuitry Act of 1990 went into effect in summer 1993, requiring that all 13-inch or larger TVs manufactured for sale in the United States after July 1, 1993 must contain built-in caption-decoding capability. This has significantly helped decoding hardware become widely available to the general public (National Captioning Institute, 1995).

The captioning varies in pacing and in the degree to which it corresponds with the spoken text, from verbatim transcription to paraphrase. The NCI, captioning mainly for the hearing impaired who must rely exclusively on the printed captions for access to the audio information of the program, strictly controls the number of words appearing on the screen at one time, as well as the length of time these words must remain on the screen to ensure readability. As a result, most NCI-generated captions are frequently accurate, but simplified, paraphrases of the original audio script. The rate at which captioning appears depends on the speaker’s pace and the type of scene involved. For example, *Sesame Street* is captioned at 60 words per minute, *Reading Rainbow*, an educational program at 120 wpm, and the *ABC Evening News* at up to 250 wpm. On average, though, closed-captioning text appears at a rate of between 100 and 120 words per minute.

Also, captions appear in two styles; “roll-up” and “pop-up”, depending on whether the captioned program is live or prerecorded. Roll-up captions are

most frequently used for news and other live programs, and roll onto and off the screen in a continuous motion. A maximum of four lines of text can appear at one time. As a new line comes along, it appears on the bottom, pushing the other lines on the screen up. Pop-up captions are used for most prerecorded programs. A phrase or sentence appears on the screen all at once — not line-by-line — stays there for a few seconds, usually synchronized with the audio transmission, and then disappears or is replaced by another full caption (National Captioning Institute, 1995). Captioned programs currently available in Japan are mostly films and television sitcoms and dramas, and pop-up type captioning is used for these programs. However, *CNN News* and *Larry King Live*, a popular talk show, are broadcast daily by cable TV and CS broadcast and are captioned with roll-up type captioning. Also, these two programs are open captioned, and can be seen without using any set-top or built-in decoding device.

Research on Closed Captions in the United States

Since closed captioning was originally developed for the hearing impaired, early research has mainly been in this area. As the nonprofit corporation that launched the captioned television service, the NCI led the way in researching the educational benefits of captioning, and released a series of research reports in the early 1980's (See Appendix for a list of research reports from 1981 through 1986). Clearly, the majority of those reports are concerned with the deaf and hard-of-hearing population. Moreover, over the years, numerous research studies have shown that hearing-impaired children learn significantly more from captioned material than from uncaptioned material (Boyd & Valder, 1972; Fischer, 1971; National Captioning Institute, 1983a; Nix, 1972; Shroyer, 1973). For example, using closed captioned television instruction with deaf students, identified as below-average readers, Koskinen, Wilson, and Jensema

(1986) observed positive effects on sight vocabulary retention, student motivation, and reading comprehension.

During the past decade, however, research has shown that the benefits of captioned television can also extend to those without hearing problems, including those with special educational needs, such as ESL and remedial students. Market studies also support this view, indicating that over half of the decoders are sold to the hearing population and that many purchasers are immigrant families (National Captioning Institute, 1989).

Depending on the target population, research on the hearing population is roughly classified into the following three categories; (a) Research on ESL students, (b) Research on learning disabled students or illiterate adults, and (c) Research on students with normal reading ability. The findings of research in this area are reported below in this order. While some articles deal with more than one of these categories, they do not contain actual research. These articles will be briefly referred to in the relevant categories.

1. Research on ESL Students

In 1983, Price and Dow (1983) of Harvard University conducted a pilot project to determine whether ESL students, in their language studies, might benefit from closed-captioned television and video programming. This study was the first attempt to empirically examine the effects of captioned television or video materials on ESL students. The results indicated that all subjects; 450 adult ESL students of 76 native language backgrounds, benefited significantly from captioning, even after one viewing. The researchers concluded that captioned video materials might help facilitate the learning of ESL not only by improving the global comprehension of the language of the test material, but also by helping the learner to “acquire more of the cultural script” that native speakers of English share (Ibid., p. 8).

In initial studies with ESL adult students, Price (1984) reported a similar conclusion that captions improved vocabulary and comprehension.

Responding to an often-cited criticism that captions do not seem to match the original language, Parlato (1986) suggested that paraphrased captions can be a successful in-class activity. He focused students' attention on the job of the captioner, who often paraphrases and simplifies what is being spoken to ensure easy readability. His students viewed programs, looking for differences between captions and dialogues, and discussed these differences after the viewing. During the second viewing, the volume was turned off, and either the teacher or a student read the captions aloud while the rest of the class read along silently. Parlato reports that this activity helped develop reading fluency and metalinguistic knowledge about how language can be used and manipulated.

Markham (1989) examined the effects of captioned television videotapes on the listening comprehension of beginning, intermediate, and advanced ESL students, using two videotaped episodes of varying difficulty (taken from the educational science television program *3-2-1 Contact*). A total of 76 university-level ESL students were involved in this study. The results of the study are consistent with the earlier findings regarding the value of captions for hearing-impaired and hearing first language students, and indicated that ESL students also derived substantial comprehension benefits from viewing videotaped material with captions. Contrary to the researcher's early anticipation that availability of captions might not be as important for the advanced students, they benefited as much from the captions as any other group. Also, the results did not support another concern that beginners might comprehend neither the captioned episode nor the uncaptioned episode because of their novice level language ability. The beginners clearly performed at a higher level when provided with captioned materials (p. 39). The study concluded

that the multisensory characteristics of captioned television seemed to enable ESL students to view words in a meaningful and stimulating context.

Neuman (1990) and Neuman & Koskinen (1992) focused on Krashen's "comprehensible input" theory, which argues that children's communicative competence in L2 is a function of the amount of "comprehensible input" they receive and understand without formal reading instruction (Krashen, 1985; Trueba, 1989), and analyzed whether comprehensible input in the form of captioned television, as a multi-sensory, largely entertaining medium might influence ESL students' acquisition of vocabulary and conceptual knowledge. The researchers found that using captioned science materials from the television program *3-2-1 Contact* with 129 Asian and Hispanic seventh and eighth grade ESL students resulted in higher scores on tests of word knowledge and recall of the scientific content of the program. In this project, the subjects demonstrated significant improvements in incidental vocabulary learning after prolonged exposure to captioned episodes, although they did not receive any special instruction at all. These results support the theory that multisensory processing of the audio, video, and print components of captioned television enhances language learning and understanding of the content, and, overall, the study demonstrated the power of captioned television to provide "comprehensible input" to language minority students. In addition, the findings of this project suggested that students' ability to acquire vocabulary through context appeared to be influenced by their level of linguistic competence. Those who were most fluent in English gained more vocabulary knowledge than those with limited English proficiency.

Unlike other experiments which used NCI-generated paraphrase-type captions, Garza (1991) used verbatim captioning with 35 advanced ESL learners and 20 Russian language learners at university to explore the language learning benefits of merging spoken and printed texts in one medium. His

study was also the first to specifically focus on advanced ESL students. He chose short (2–4 minute) captioned segments representing five distinctly different types of video material; dramatic, animated, and comedy feature films, documentary program, and music video. When, over a period of time, he tested students' ability to use specific vocabulary from the segments in retelling their content, he found a significant increase in comprehension of the segments, as well as recall of the language used in them. The data collected in his study strongly supported a positive correlation between the presence of captions and increased comprehension of the linguistic content of the video material, suggesting the use of captions to bridge the often sizable gap between the development of skills in reading comprehension and listening comprehension, the latter usually lagging significantly behind the former. Interestingly, the results did not support initial concerns that the addition of the written text to already visually and acoustically rich video materials might overload the learner's capacity to comprehend. While this may likely be more of a concern at the beginning levels of instruction, more advanced students seemed to cope with the captioned materials quite well, as demonstrated in both the content-based comprehension checks and in the recall/retell interview sessions. Similarly, concerns that one mode of input might seriously impede another — specifically, that the reading of the captions might override the development of listening comprehension strategies — were also not evidenced in any significant way.

Since the above research was restricted to video materials with a high audio/video correlation, in which the audio track was strongly supported by the video portion (visual images), Markham (1993) examined the effects of captioned video material on ESL comprehension with videotaped episodes (taken from *3-2-1 Contact*) presenting both low and high audio/video correlation. The researcher's intent was to extend captioned video research to

include data concerning the contributions of visual support as a factor in second language comprehension. Thirty-seven advanced adult ESL students and thirty-four intermediate level students participated in the experiment. The results showed that both groups were able to recall significantly more idea units when the captions were available at a time when the episode presented a low level of visual support (low audio/video correlation). Conversely, caption availability did not substantially improve student recall with the episode presenting a high audio/video correlation. Overall, the results of this study are consistent with those of the prior research. Clearly, ESL students derive substantial benefits from viewing captioned video material. However, the major finding regarding visual support underlines the complexity of deciding how to use captions to meet the needs of second language students. In this case, the captions were decisively important when the visual content of the video did not reinforce the audio track. By contrast, the captions appeared to be of questionable value for advanced students when there was high audio/video correlation.

Rees (1993), at the International Language Institute of Massachusetts reports success with Chinese and Japanese students of ESL using captioned news programs and sitcoms to expand vocabulary, improve listening comprehension, increase knowledge of current affairs and U.S. culture, and stimulate class discussions. Rees used print-out scripts of programs students had viewed in class for classroom and homework reading.

Webb, Vanderplank, & Parks (1994) suggest using certain closed captioned children's programs, such as *Sesame Street*, *Reading Rainbow* and *3-2-1 Contact*, with adult ESL learners. The program content, captioning rate, and vocabulary used make these programs suitable for use in the adult ESL classroom and many adult learners activities can be designed around them.

2. Research on Remedial Students

The work of the National Captioning Institute (1983b) was the first attempt to examine the feasibility of teaching reading to hearing children with closed captioned materials. Koskinen, Wilson, & Jensema (1985) report on the same two pilot projects which involved teachers using a variety of closed captioned television materials, including *Scooby Doo*, situation comedies, and *Sesame Street*, to develop skills in the areas of comprehension, vocabulary, and oral reading fluency with 35 remedial hearing readers in grades 2 through 6. They focused on the highly motivating nature of TV, and stressed that with closed captions students can see written words in a motivating environment where the audio and video context helps them understand words they do not know (p. 3). Although they did not assess student performance, their conclusion is that positive evaluations by teachers and students suggest that this area merits further investigation.

Papers by Jensema (1986) and Koskinen, Wilson, Gambrell, & Jensema (1986) are based on the findings of the same experiment, examining the effects of closed-captioned television on the reading performance of 77 disabled children, aged 9 to 13, who were reading on the 1st through 3rd grade levels. Subjects were randomly divided into four treatment groups and were instructed using either closed-captioning with sound, closed-captioning without sound, television with no closed-captioning, or a written text only. They viewed or read (according to condition) four different segments from the TV science series *3-2-1 Contact* over a three week period. Performance was measured using a content-specific word recognition test, a cloze test, a silent comprehension test, and an oral reading test. Although results were mixed, overall, the closed-captioning with sound group and the television group consistently outperformed the closed-captioning without sound group and the text only group. The results of this study suggest that both captioned-TV-

with-sound and conventional TV are well worth exploring as media for enhancing reading skills and that the addition of captions to conventional TV may be an effective means of enhancing word recognition skills and enabling students to utilize the larger idea bearing units in text and focus on meaning.

Goldman & Goldman (1988) reported using closed-captioned television to help remedial readers at high school level. Using popular situation comedies, they employed closed-captioned television once or twice a week to teach various reading skills before, during, and after viewing a program. Although enthusiasm was so high that the teachers set up a Closed-Captioned Club for students to watch programs every day, achievement results were not conclusive. Nevertheless, class attendance improved considerably, tardiness decreased and students displayed more interest and motivation for learning in general.

Bean & Wilson (1989) and Spanos & Smith (1990) examined the use of closed captioned television as a reading medium, especially as a medium for sight vocabulary development, for 24 adults receiving literacy instruction. Results indicated that overall, students improved significantly on word recognition tests; however, student performance did not differ across treatments. Of particular interest was that the group using closed captioned television, without instruction, showed a degree of success in reaching a specific criterion level on weekly sight vocabulary test, indicating the need for further study on the use of closed captioned television without instruction as a medium for incidental learning. Moreover, student attitudes toward closed captioned television were extremely positive, not only toward its use as a means of learning, but also as a means of increasing general knowledge.

3. Research on Students Without Reading Disability

Gladhart, Lebbin, & Layton (1987) examined the use of closed-captioning

with 22 above-average second-grade children to determine if closed-captioning would be more effective than traditional instruction in teaching content-specific sight words and vocabulary. Science-oriented programming from *Reading Rainbows*, a popular educational program for elementary students, was used in this study. No statistically significant differences were found between the closed-caption group and the traditional instruction group. However, an attitude assessment given after the study showed that the children had strong preferences for the closed-caption method.

Rickelman, Henk, & Layton (1991) examined several studies using closed-captioned materials to teach reading to both children with learning disabilities and children reading at grade level and above. The reviewers identified a number of positive outcomes and concluded that “closed captioned television just might be the most underrated technology in the past decade.”

Implications for EFL Classrooms in Japan

1. Closed Captions as a Medium for Reading and Vocabulary Instruction

Critics of closed captions often mention that captions do not match the original audio script. In Japan, both verbatim and paraphrased captioned materials are available, either in video or laserdisk form. Although most video materials use the paraphrased-type captioning, the “CINEX” series and a few programs captioned by the Caption Center Japan are captioned verbatim. Pioneer’s “Scenario Disk” series are verbatim-captioned laserdisks. As Parlato (1986) suggests, paraphrased captions can also be used as a successful in-class activity. Moreover, in considering that these captions are paraphrased to ensure easy readability, paraphrased captions might be a more suitable reading material for low and intermediate level students than ones which are verbatim. Defending paraphrased captioning, Parlato (1986) says:

“Caption-reading should not be a tachistoscopic (that is, “speed reading”) exercise. With so much data being presented, verbose or verbatim subtitles can result in a sort of “sensory overload” that may counterproductively frustrate some viewers, especially those who are already having trouble with our puzzling language. English is difficult enough; paraphrased captioning makes it a little easier” (p. 73). Here, again, teachers should pay most careful attention to the proficiency level of the students in their selection and use of captioned materials.

Unfortunately, very little research has been conducted in Japan concerning this possibility of using closed-captioned video materials as a means to improve students’ reading comprehension. However, the findings of the above studies on both ESL and remedial learners in the United States suggest that closed captioned video materials can be utilized to teach reading to EFL students in Japan. Captioned materials as a medium for teaching reading have theoretical justification as well as practical application. The combination of the visual stimuli (picture and words) with the auditory stimuli provides a multi-dimensional approach to building vocabulary and developing reading skills. The opportunity to hear authentic language may have positive effects on the language and communication skills of the students. Closed captioning turns video materials into a “moving storybook, a steady stream of reading material, which allows students to read spoken language and have vocabulary augmented by video content” (National Captioning Institute, 1984).

Regarding the type of video materials used, movie videos are often utilized for classroom and research use in Japan (Mori et al, 1990; Miyamoto, 1991; Bragoli, 1993; Shang-Ikeda, 1994; Sato, 1994-a, b; Suzuki, 1994; Tsuchiya, 1994). On the other hand, a number of the above-mentioned studies in the United States used short (2–5 minute) segments taken from educational television programs, such as *3-2-1 Contact*, partly because audio/video

correlation is relatively high in programs where scientific information is explained using a lot of pictures and other visual supports. Certainly, movie videos provide students with useful information on the social situation where the language is being used. Some parts of a movie video, however, present a low level of visual support (low audio/video correlation), providing much less positive visual support for students' comprehension. Therefore, when considering the use of captioned videos in classroom, segments presenting a high level of visual support should be carefully selected, especially for less proficient students. As Webb, Vanderplank, & Parks (1994) suggest, certain children's educational programs, such as *3-2-1 Contact* can be successfully used for adult ESL learners because of their relatively slower rate of captioning and for the comparatively easy level of vocabulary. Since various educational videos based on such useful television programs are now available in Japan, the use of these non-movie programs is also worth exploring.

Markham (1993) and numerous other studies also propose that captioned video materials have some potential for helping sight vocabulary development. Of course, there are many questions which remain to be answered about the use of such materials in EFL classrooms in Japan. These questions include the following:

1. With what types and levels of reading difficulty are closed captioned instruction most effective?
2. What is the effect of closed captioned video materials on comprehension and sight vocabulary development?
3. What are the relationships between the speed with which the captions appear on the screen, the reading ability of the learners, and effective instruction?
4. What types of materials are most effective for use with closed captioned video materials — dramatic story type, comedy, or documentary?

2. Closed Captions as Comprehensible Input for Incidental Learning

Focusing on the use of captioned materials as “comprehensible input”, Neuman & Koskinen (1992) suggest that ESL students develop word meanings and language through comprehensible input. In their project, captioned television appeared to provide a particularly rich language environment which enabled students to learn words incidentally through context as they developed concepts in science. These results suggest that, along with the development of instructional strategies, comprehensible input may be an essential environmental ingredient in language acquisition and reading and vocabulary development for ESL students.

Bean & Wilson (1989) also indicated the possibility of captioned materials as a medium for incidental learning. In their study, the group using closed captioned television, without instruction, showed identical success to the group using captioned materials with instruction in reaching a specific criterion level on weekly sight vocabulary tests. This might serve as an indication of the need for further study on the use of closed captioned television without instruction as a medium for incidental learning. For example, the use of captioned video in one’s home might be a potential self-study tool for helping students work toward their goal of developing vocabulary.

3. Closed Captions as a Means for Listening Instruction

Many teachers and researchers in Japan have also recognized the potential that captioning may offer to students to bridge the often sizable gap between students’ reading and listening abilities, the latter usually at a significantly lower level than the former (Bragoli, 1993; Shang-Ikeda, 1994). By providing students with a familiar graphic representation of an utterance, they are empowered to begin to assign meaning to previously unintelligible aural entities, gradually building their aural comprehension in relation to their reading

comprehension (Garza, 1991). It does sometimes become necessary, however, to remove access to captions when the students need to focus on their listening ability. As Markham (1993) suggests, it is very difficult to decide when and how to use captions to meet the needs and linguistic level of the students. Further study should be made of the most efficient order or presentation of captioned video to facilitate language learning, evaluating whether students should view the segments first with or without captions, and then determining the best way to proceed to eventually get students to the point where they are comfortable with such authentic video materials without the support of captions.

4. Closed Captions as a Powerful Motivating Tool

Lastly, even when the results of the experiments have not yielded any conclusive evidence of the effects of closed captioned television as a means of instruction either for ESL or remedial students, the above mentioned studies all share one very important finding; that student attitudes toward closed captioned television were extremely positive. This strong indication of acceptance on the part of students suggests that captioned television is a medium that students can enjoy, and adds to the need for further research in the potential of closed captioned instruction as a means of motivating students in the classroom. Neuman & Koskinen (1992) report that “captioned television had the advantages of being rather easy to access and of providing a shared learning environment that encourages student participation” (p. 102). Moreover, research seems to concur that motivation and time on task is enhanced in a closed-captioned setting. The motivation to learn and to identify with members of the L2 group appears to be an important determinant in successful second language acquisition (Cummins, 1986; Trueba, 1989). Fearing failure, some students may construct an “affective filter,” or defense

system, which prevents them from utilizing the input they might receive for language acquisition (Krashen, 1985). In order to lower the filter, Krashen suggests that language programs would be highly motivating, and non-evaluative. This motivational effect of closed captioned television is also an important dimension in its possible use in EFL classrooms in Japan.

On the negative side, Neuman (1990) reports that “some have suggested that the “crowdedness” of television, requiring readers to process simultaneously through multiple modalities, might be difficult due to hypothesized limits of human attention (LaBerge & Samuels, 1974; Singer & Singer, 1983). With the decoding task so difficult for ESL students, Williams & Snipper (1990) question whether they have the attentional capacity to read, view, and listen at the same time” (p. 20). Contrary to these concerns, the results of their research indicated that the audio portion of closed captioned television programs did not interfere with the students’ ability to visually process the meaning of captions. However, this might be more of a concern at the beginning level of instruction. Future studies should be directed toward empirically examining this theoretical notion that simultaneous processing enhances learning.

Conclusion

The findings of research studies on closed captioned television in the United States suggest that captioned video materials may also have great potential in the successful instruction of English to Japanese students. Further research would be valuable in determining ways in which this medium can be best utilized to develop students’ English ability. The range of related topics worthy of attention and investigation is wide and yet to be fully explored and appreciated. Especially, ways of presentation of captioned materials, material choice, and research methodology itself should be further explored. It is

hoped that this initial report will invite further contribution to the study of the successful EFL classroom application of closed captions.

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Resources

Caption Center Japan, 4-2-3 Toranomom, Minato-ku, Tokyo 105. (03) 3583-8611. (For information about verbatim-captioned videos)

The National Captioning Institute, Inc., 1900 Gallows Road, Suite 3000, Vienna, VA 22182. (703) 917-7600. (For information about closed captioning and telecaption decoders in **Closed Caption-An Introduction**)

Pioneer Co., 1-4-1 Meguro, Meguro-ku, Tokyo 153. (03) 3494-1111. (For information about Scenario Disk)

Sony Pictures Entertainment Co., 2-8-14 Hamamatsu-cho, Minato-ku, Tokyo 105. (03) 5400-1657. (For information about CINEX)

Appendix

National Captioning Institute, Inc.

Department of Research — Jensema and Fitzgerald, authors

Report Listing: 1981

- ◆ 81-1 Audience Reactions to Football Scoreboard Captioning
- ◆ 81-2 The 1980 Closed Captioned Television Audience
- ◆ 81-3 Audience Reaction to Inauguration Captioning
- ◆ 81-4 A Report on the Sears-Lions Telecaption Demonstrations
- ◆ 81-5 Closed Caption Decoder Sales and the “Core” of the Hearing-impaired Community
- ◆ 81-6 A Survey of the Opinions of Closed-caption Decoder Owners
- ◆ 81-7 A Comparison of Three Groups Interested in Closed Captioning
- ◆ 81-8 A Report on Data Collected at the Mature Americans’ “Expo” — Tampa, FL.
- ◆ 81-9 A Survey of Captioned Television News Program Preferences
- ◆ 81-10 Captioned Films and Closed-caption Television Viewing by Clubs for the Deaf
- ◆ 81-11 A Survey of Closed-caption Television Use in Schools for the Hearing-impaired
- ◆ 81-12 A Demographic Profile of Households with Closed-captioned Television
- ◆ 81-13 The Closed-caption Television Viewing Preferences of Hearing-impaired Children
- ◆ 81-14 Daytime Closed Caption Television Preferences
- ◆ 81-15 The Attitudes of Hearing-impaired Viewers Toward Closed-captioning Television Commercials
- ◆ 81-16 Closed Caption Decoder Ownership and Program Preferences among Two Groups of Hearing-impaired People

1982

- ◆ 82-1 A Home Video Survey of a Sample of Households Having a High Percentage of Hearing-impaired Residents
- ◆ 82-2 Public Awareness of Closed Caption Television in the Dallas/Fort Worth Metropolitan Area
- ◆ 82-3 Characteristics of the Closed Caption Television Audience on January 1, 1982
- ◆ 82-4 Audience Reactions to the Closed Captioned ABC World News Tonight
- ◆ 82-5 The Reaction of the Closed Caption Television Audience to Text Services

Teruhiko Kadoyama: An Overview of Closed Captions Research in the United States
and its Implications to EFL Classrooms in Japan

- ◆ 82-6 Public Awareness of Closed Caption Television in the Pittsburgh Metropolitan Area
- ◆ 82-7 Awareness of Closed Captioned Television among Parents of Hearing-impaired Children
- ◆ 82-8 The Market for Closed-Captioned Cable Television in New York City
1983
- ◆ 83-1 The Propensity of Hearing-impaired Television Viewers in Two Cities to Subscribe to Cable to Obtain Closed Captioned Programming
- ◆ 83-2 Reactions to Captioned News Services
- ◆ 83-3 Characteristics of the Audience for Closed Caption Television on December 31, 1982
- ◆ 83-4 The Hard of Hearing Market for Closed Caption Television
- ◆ 83-5 Hearing Impaired Children's Comprehension of Closed Captioned Television Programs
- ◆ 83-6 A Report on Two Pilot Projects Which Used Captioned Television in Classrooms to Teach Reading to Hearing Children
1984
- ◆ 84-1 Characteristics of the Audience for Closed Caption Television on December 31, 1983
- ◆ 84-2 School Use of Closed Captioned Television
1985
- ◆ 85-1 Characteristics of the Audience for Closed Captioned Television on December 31, 1984
- ◆ 85-2 Using Closed Captioned Television in the Teaching of Reading to Deaf Students
1986
- ◆ 86-1 Closed Captioned Television: A New Technology for Enhancing Reading Skills of Learning Disabled Students