A brief history of television use in foreign language instruction is presented, and the ways in which videotape technology has increased television's potential are discussed. Various uses for the medium, including films designed for language teaching, non-specialized material taped off the air, videotaping of student productions, and teacher-prepared tapes are explored. The impact of recent developments in video technology, such as satellites, multistandard playback equipment, closed-circuit television, digital television, and interactive computer/video systems are examined. More research is needed to help the profession understand how the visual element affects language learning. More flexible and accessible distribution systems for video equipment and more teacher training in effective production and use of materials also need to be researched. Fifty-one references are supplied. (Author/MSE)
VIDEO AND SECOND LANGUAGE LEARNING

Jean-Pierre Berwald

A brief history of the use of television in foreign language teaching is presented and the increased potential for the medium brought about by the availability of videotape technology is presented. Various uses for the medium are explored, including (1) films designed for televised language teaching; (2) non-specialized material taped off the air; (3) videotaping of student productions; and (4) teacher-prepared tapes. The impact of recent developments in video technology (satellites, multistandard playback equipment, closed-circuit TV, digital television, and interactive computervideo systems) is discussed. More research is needed to help us understand how the visual element affects language learning, as are more flexible and accessible distribution systems for video equipment, and more teacher training in effective production and utilization of materials.

The most revolutionary period of foreign language teaching in recent years was the audio-lingual era. For better or for worse, it was this movement that caused a dramatic change in methods and materials and left us with a new focus, the spoken word. For over 25 years, teachers and theorists have devised countless ways and materials for teachers and students to comprehend and speak a foreign language. In an effort to make language learning more palatable and effective, a number of media have come into play. The leading medium and source of information over the past few centuries has been the textbook; no major change in the use of the printed word was effected very long except that in recent years, the printed word served to reinforce oral work that had already taken place. The change in focus to the spoken word led to the development of one important medium, audio tape. From open-reel tapes and tape recorders of the 1960s to the eventual use of audiotapes since the 1970s, tape has been widespread in language learning. Audio tape received its major impetus from the development of language laboratories in the 1960s in the NDEA (National Defense Education Act) era of available funds, and continues to accompany most foreign language textbooks on the market today as it has done for over 20 years. It is certainly the most significant technical development to affect language teaching and continues its use either in language laboratories or in classrooms throughout the world.

WHAT ABOUT VIDEO?

The medium of television has had a tremendous impact on our lives and continues to do so as we go from one innovation to another. From black and white limited-range telecasting in the 1950s to instantaneous world-wide, color satellite transmissions of the present day, this medium along with related developments such as cable, high definition, stereophonic sound, and interactive video disc continue to amaze us with their ability to inform and entertain. Recent developments in video cassette (VCR) use, design, and flexibility have made this medium another powerful influence in the area of home entertainment (Gelman et al. 1984). The growing popularity of VCR can certainly be verified by increased numbers of video cassettes on the market in all fields of knowledge.

Although we are all products of the video revolution, there is a major question regarding the value of television in education in general, or in teaching foreign languages, in particular. There are those who believe that in spite of all the promise television held for us in teaching language skills and foreign cultures, this medium has still not lived up to either our expectations or its potential. No one doubts the power of television to entertain or inform, but

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there is relatively little evidence to prove that it is as significant an instructional aid as, say, audio tape or simple stick-figures. And yet, the profession cannot be faulted for a lack of effort in this direction. There have been countless projects in the past two decades devoted to improving the quality of instruction with video.

CHANGES BROUGHT ABOUT BY VIDEO TAPE

It is really the purchase of video-tape equipment that has made possible a wide variety of material for foreign language teaching. The early use of open-reel tape with black and white units has given way to the very popular color video cassettes which are considerably easier to use. Tape has permitted schools to take programs directly off the air for use at any desired time. It has also permitted teachers and students to prepare their own materials both in the classroom and in various locations with lightweight portable cameras. Although there are some similarities with film, video tape is still easier to shoot and play back. It also allows one's results to be shown immediately after shooting. One advantage of motion picture use has been the availability of greater numbers of short and feature-length films, generally in 16mm format, but even this is changing as more and more material becomes available on video cassette, including a variety of film classics.

The following include some of the main advantages of video tape as well as why it is easier to use and more flexible than film:

1. It is easy to erase programs no longer needed.
2. There are no projector noises.
3. One can locate action quickly with a fast forward or rewind switch. A remote switch simplifies the task.
4. One can set a recorder to tape a program off the air automatically, at any time, for replay at a more convenient time.
5. One can dub a new sound track to an existing program.

Of great interest to teachers, of course, is the ability to tape foreign language programs directly off the air. Although there are very few American television stations that broadcast entirely in languages other than English, there are many stations that devote several hours a week to foreign language programming (James 1981). Generally, these are found in large urban areas such as New York or Los Angeles or in regions such as the Southwest or Northeast, near the Mexican and Canadian borders. James (1981:88-89) writes that SIN, the Spanish Information Network, with headquarters in New York, feeds by satellite "over 100 hours of news, sports and entertainment from the entire world to dozens of Spanish-language affiliates in the United States". One has but to travel to any of these areas, or to have access to satellite receiving equipment in order to tape authentic uses of language directly off the air.

For greater variety in programming, one could take a VTR (video tape recorder) or VCR unit across the Canadian or Mexican border and tape programs off the air. This writer took a unit to Montreal in order to tape a wide variety of telecasts in French to include news, a hockey game, and a few commercials. American video-tape units, however, cannot be used to tape programs off the air in Europe nor can cassettes made for overseas use be played on American video-tape players.2

INTEGRATED AND SUPPLEMENTARY MATERIALS

Ciernan and Dahms (1979) draw our attention to an important distinction to be borne in mind when working with video in the foreign language classroom: material can be either integrated or supplementary. Integrated materials are those essential to the units of instruction for they are the actual lessons and all the pre-viewing and post-*

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2. For a complete discussion of international television standards and the pitfalls and possibilities these standards provide, see the article by Rick Altman elsewhere in this volume.
VIEWING EXERCISES are dependent on these presentations. Supplementary materials are those that may tie in with the class program or which may not be relevant at all. They could very well be additional sources for variety's sake to liven class interest. The filmed series *Parlons Francais* and *Guten Tag* are examples of integrated materials since they are the core of instruction upon which all the exercises depend. Most of the programs described in these pages come under the rubric of supplementary materials.

USES OF VIDEO IN CLASSROOM TEACHING

The following sections of this article contain a number of ideas on how video, in its various forms, can be used for language teaching. Since such a vast array is being presented, it might be useful to classify them as follows in four major groups:

1. Films designed for televised language teaching.
2. Non-specialized materials taped off the air.
3. Video-taping student activities.
4. Teacher-prepared video tapes

1. Films designed for televised language teaching

Any discussion of video must include the topic of film since most televised lessons and series have been in motion picture form. One of the most popular filmed series for language teaching in the 1960s was *Parlons Francais* beamed mainly to elementary school youngsters learning French. It was significant as one of the first television series during the audio-lingual era. Its use was rather widespread throughout this country although its main advantage was also instrumental in hastening its demise. Teachers did not have to know French very well in order to be able to teach it. The series was most successful when teachers were able to follow a televised presentation with supplementary exercises accompanying the materials. Many teachers had no knowledge of French and did little more than turn television sets on and off. Perhaps the main purpose for the series was the belief that television, with a little help from non-specialist teachers, could do a satisfactory job of teaching French (Randall 1959). Participating teachers received considerable help from the program developers in the way of written guides, a weekly half-hour telecast to help them develop fluency, and 40 records to help them with their classroom instruction. In addition, teachers would receive visits from area coordinators who would sit in on classes and conduct monthly workshops in locations convenient to the teachers.

Ciotti (1966) conducted a nationwide survey of television's role in FLES. She addressed questionnaires to foreign language supervisors in the United States and received only a few positive responses amidst a preponderance of negative replies. Indiana's response on television's lack of success in language teaching is a comprehensive, representative statement as to why many states lost interest in televised FLES programs of any kind in the face of budgetary crises and untrained teachers.

Neither the MPATI nor a local program used in FLES programs is justifiable from the standpoint of acquisition by the student. MPATI does nothing to help the teachers whose classes are following the foreign language programs except to provide a manual. In many classes the classroom teacher does not know the language and the TV is not adequate for total instruction. The best thing that can be said is that, in some cases, students develop a degree of interest in the country where the language is spoken that they could not have achieved in a regular

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3. Midwest Program on Airborne Television Instruction. In the 1960s, MPATI beamed instruction from a DC-6 flying at 23,000 feet over Montpelier, Indiana. It broadcast instructional programs in a 200-mile radius to 17,000 schools and colleges with enrollments of seven million in five states.
social studies class. In some schools, many children who study French or Spanish are so desperately lost by the end of one or two years that they lose all interest in continuing the study of French or Spanish at the junior high school level, and feel quite negative about any foreign language instruction. Several of the classes I have visited exhibited complete boredom and lack of knowledge of what was going on during the TV broadcasts.

During the late 1960s and the decade that followed, nationwide budgetary crises hastened the end of many FLES programs throughout the country and Parlons Franciais receded into quiet oblivion. Another film series in French also produced in the 1960s was Hachette's En France comme si vous y etiez. It was intended for secondary and post-secondary audiences and was also telecast on commercial channels for the public at large. This writer remembers seeing the series aired on WHDH Boston Sunday mornings in 1966. The format consisted of 39 films, all of which were supplemented by audio-cassette; written exercises for grammar and phonetics; and a text containing all the scenarios. The films were a series of situations produced to focus on dialog and word study. A musical "opera-buffa" followed each dialog presentation. These were cleverly produced musical romps in costume whose purpose it was to reinforce some of the language introduced earlier in the dialog. This series is still being used today at the University of Dijon (France) in its summer program for foreign students.

A decade or so after the Hachette series, the BBC developed the film series Ensemble for adult televiewers (Paton et al. 1980). This series, like the previous one described, contained weekly episodes on films which were all supplemented by exercises in records, audio tape, and in manuals. The films included short skits, cartoons, culture capsules, and a weekly story of a young student and his travels throughout France. In addition, the BBC also used radio as an important component for beaming instruction. Furthermore, viewers were able to intensify their learning by attending classes at a participating evening institute in their area. This already complete program was further enhanced by subscribing to a special television guide magazine entitled Vue d'Ensemble. The program attracted 250,000 viewers and sold 190,000 of the accompanying texts.

At the time of this writing, major steps are being taken to produce a film/video-cassette series for airing on PBS in the fall of 1986 (Tele-Video Project 1984). The project has received funding of $2 million from former ambassador Walter Annenberg, the National Endowment for the Humanities, and the French government. The purpose of the project is to "explore the application of video and related technologies to language learning in ways that can be replicated in other foreign languages". This series being produced by a collaboration of Yale University, Wellesley College, and radio station WGBH Boston is similar to the BBC's Ensemble in that it, too, contains a drama filmed in France as well as still photos, cartoons, works of art, and various film clips. Although the text prototype intended for the series has already been used in classes at various eastern colleges and universities, the project developers intend this series mainly for "unenrolled home viewers, and adult students in community colleges and in extension and continuing education programs in four-year colleges and universities". This series also plans to make available video tapes of each of the 52 half-hour programs for individual and group use. Textbooks and other pedagogical materials intended for the general public will supplement the televised lessons.

Although most documentation of specialized films relates to the teaching of French, films for other languages similar in nature to those described above have been produced also. The series Guten Tag and Guten Tag Wie geht's are examples of film series produced for students of German.

2. Non-specialized material taped off the air

While the first section on the use of video dealt with films prepared for the purpose of teaching languages, this section treats the pedagogical exploitation of any of a variety of televised material. Program sources may range from stories and newscasts to commercials. Although the use of video cassettes has been of inestimable help in
allowing instructors to schedule material, live telecasts have also been used with success. Berwald (1976) describes assignments where students are asked to view a particular telecast at home, to take notes on a ten-minute segment and to write up the notes in a coherent paragraph. The following day, the instructor writes a paragraph of the segment on the board with the participation of his students. The instructor's role in this case is to accept or reject students' sentences or to suggest stylistic changes as the paragraph is being developed.

Berwald has also video-taped various programs and taken slides of the action directly off the screen in order to preview or review material. He has also used video tape to dub voice-over narrations or dialogs which may or may not have related to the action taking place on the screen. Another example of dubbing was in the area of sports where Berwald and Wolfe (1975) prepared sound tracks in French for football and baseball. Voice-over narration is particularly easy for sports since one has but to watch the screen to describe what players are doing. Furthermore, their names, statistics, and background information are constantly flashed on the screen for further incorporation into a sound track. Background crowd noises from an audio cassette are recommended for a more realistic video sound track.

Graziano (1972) reports using the American television series *The Defenders* to teach English language skills in Japan. He would receive episodes on film and accompanying scripts from the United States and then video-tape them for flexibility of presentation. He would also have his students translate the dialog and dub the sound track into Japanese.

Reitzel and Van Dam (1983) have had their students analyze American television programs as a way of developing their English skills. They use a series of worksheets that include checklists and open-ended questions regarding the program content and roles portrayed.4

A number of journal articles on the use of video refer to an analysis of non-verbal communications to include body language and gestures. Reitzel and Van Dam play back various scenes with the sound off and discuss gestures. They then ask students to write a dialog they would consider appropriate to the action. Linke (1981) analyzes body language with video-tapes of full-length motion pictures.

The topic of culture is certainly crucial to language teaching and readily observable to the trained viewer. Morain (1971) lists a series of characteristics to look for when viewing films, certainly applicable to televiewing. They include the following:

1. Art
2. Artifacts
3. Attitudes
4. Background setting
5. Clothing
6. Folklore of advertising
7. Gestures
8. Humor
9. Interpersonal relationships
10. Music
11. Onomatopoeia
12. Proverbial expressions
13. Psychology of advertising

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4. The worksheets were adapted from ideas suggested in Milton E. Ploghoft and James A. Anderson. *Teaching Critical Television Viewing Skills*. C. C. Thomas, 1982.
14. Social Customs
15. Stereotypes

Although Morain first relates these characteristics to a series of commercials distributed by the American-Swiss Association, they are certainly applicable to any film or VTR presentation.

Maxwell (1983) suggests that soap operas may be particularly rich for cultural aspects of a society since they display many of the characteristics listed above, especially interpersonal relationships and body language. These particular dramas "are easily suited to showing contextualized language, different levels and registers, social interaction and a certain view of American culture".

Television commercials are also an excellent source for teaching about culture. Skirble (1977) has obtained filmed commercials from all over the world and used them to focus on the characteristics listed by Morain. She also used them to eliminate stereotypes by showing similarities in cultures across various countries. Berwald (1976) mentions that one great benefit of advertisements is that claims and slogans often appear on the screen in written form to reinforce the spoken word thereby enhancing both listening and reading comprehension.

The growing popularity of video cassettes has made great numbers of films available for rental and purchase. At the University of Massachusetts in Amherst, the use of VCRs in a film course supplements a weekly presentation of a feature film. By using a rented VCR of the same motion picture, students can focus on certain aspects of a story, viewing a tape as often as is desired. It is important to note that copyright guidelines recently promulgated should govern the use of material taped off the air. They are printed elsewhere in this volume for the reader's perusal.

3. The video-taping of student productions

Motivation is most likely the most often mentioned reason for success in student productions. Students react very favorably to video productions and enjoy participating in their development. One of the most frequently noted uses of student productions has been skits and role playing. Greene (1979) feels that this activity not only enables students to reduce their inhibitions, but puts pressure on them to perform and pronounce at a high level. He suggests a series of short, role-playing situations (making confession and receiving penance, convincing a reluctant acquaintance to do something) and has students present television commercials as well. These have the express purpose of focusing on one or more points of grammar. Keilstrup (1980) had students, in groups of three, write and perform situation-oriented mini-plays. Rehearsals are particularly important since it is then that students practice their lines over and over, and in so doing, improve their pronunciation and intonation. A number of articles mention how seriously students take these presentations since the end result entails display in front of peers and they are anxious to record fluent, properly-accented speech.

Knight (1975) also advocates student groups of three doing role playing in order to focus on specific situations such as ordering a meal, interviewing for a job, or pleading a court case, all good for learning specialized vocabulary. Knight avoids the use of printed texts since this leads to a "heads down reading attitude". Brennan and Miller (1982) used video-taped situations for teaching specialized vocabulary in English to Chinese students in China. One medical scene involved some on-location taping at a clinic and included shots of doctors and patients. The reason for using Chinese locations was to prepare these students to work with English-speaking tourists visiting China.

Reish and Reish (1980) go beyond skits and short role-playing situations to a full-length play. They describe a group of 7th graders performing in a production of Ionesco's La Lecon. The authors of the article felt that as long as the play was going to be performed anyway, why not tape it for its pedagogical potential in the classroom. They
recommend using the tape to complement the reading of a play and not to replace it. The tape proved particularly effective for showing interaction between characters.

Berwald (1970) has used video tape to record student presentations of dialog, verb forms, idiomatic expressions, and poetry. In the latter, students acted out Prevert's *Dejeuner du matin* while a native speaker read the poem voice-over, off camera. As with many productions, the poem was replayed with and without sound and with occasional use of the pause button in freezing the image in order to encourage student participation in learning. Santoni (1975) describes his use of a VTR in an advanced conversation class where students were not recorded until after lengthy preparation consisting of readings, slide viewing, audio-tape listening and extensive discussion. Question sheets were passed out to focus on precise cultural items entailing the life in a small French village. Actual class taping was limited to three short sessions during the 3rd, 6th, and 9th class periods. The first taped session involved role playing where each student assumed the character of a village inhabitant and answered questions from classmates about his/her role. The second taping was a debate by "villagers" about the role of the nobleman in the area. The third session was a simulation game where an administrator from Paris was sent to the village to assess a problem and to propose solutions. Among Santoni's objectives was that of being able to use the tape to observe students interacting with one another in a realistic cultural simulation. Another was to encourage self-analysis and correction, objectives mentioned by many users of VTR. Santoni feels it is far more beneficial for students to note and correct their own errors than for the instructor to intervene. Hutchings (1984) believes that self correcting results in permanent improvement. Another key factor, of course, is that "tape allows students to continue a session without correction or fear of correction since errors can always be picked up or pointed out during a replay. The correction process is easier for all concerned when the teacher interrupts a tape rather than a living, breathing person."

One additional example of student-prepared tapes concerns proper pronunciation. Ecklund and Wiese (1981) use a zoom lens to focus on a student's face as he pronounces French. The facial close-up allows students to gain mastery over the lips, mouth, and tongue. Incorrect sounds are frozen on the screen. The teacher models correct versions which are televised in separate taping sessions. Here, as with other examples of student taping, the role of self-analysis is important to skill development.

4. The use of teacher prepared tapes

While student participation in preparing tapes enhances motivation and learning, there are certainly some key advantages to teacher-prepared tapes, the most important of which is devising material appropriate for a particular class. Of equal importance, of course, is that the instructor and other production participants can speak the target language fluently.

Lems (1983) in a Master's project produced a series of tapes with colleagues in order to teach listening comprehension skills. In preparing tapes for foreign students at the University of Illinois, she produced short sketches featuring herself and colleagues as actors for comprehension of formal classroom lectures and "non-academic spoken English in informal settings". She focused on short, everyday situations between native speakers and tried to show the differences between spoken English (with redundancy in verbal discourse, emphasis on words, suprasegmentals, and paralinguistic features) and formal discourse. Tapes were played with and without sound with students being asked to identify paralinguistic features and respond to prepared questions.

In another project for foreign students on an American campus, video recording was used to prepare students in science and technology to understand formal lectures. Jordan (1983) reports that these students had little interest in language and were "unaware of the cultural differences in the approach to academics in their country and in the United States". And yet, since the cultural factor was important, the project director felt it was important to devise materials to help point out differences. Jordan asked several members of the science and engineering faculties of her university to each prepare a 20-minute lecture on video tape on their specialty. Accompanying worksheets and audio
The preparation and use of skits is one of the most often described techniques in the literature both in student and teacher productions. Normand (1980) discusses a situation in the German Department of the University of Minnesota where the instructional staff taped skits to provide a "situational context for controlled vocabulary and syntax". The productions were brief, lasting anywhere from 30 seconds to three minutes and consisted of everyday situations in which the "actors" were able to program controlled vocabulary and idiomatic expressions required by the situations depicted.

Teaching assistants at the University of Massachusetts in Amherst have prepared situational skits and demonstrations. Griswold and Ivey (personal communication) using French, prepared a 15-minute demonstration à la Julia Childs on how to make crêpes. Donohue and Thomas-Rhodes (personal communication) used a portable video camera to shoot shopping sequences in area stores. In a segment of still another production devoted to Francophone Africa and African masks, the producers made use of a device known as a multiplexer to simplify the inclusion of slides in the taped presentation.

Berwald (1980) made use of a portable unit for teaching driver education in French. He recorded actual driving sequences in Northampton, Massachusetts. While he drove, a colleague sitting next to him gave an entire series of commands on how to proceed, including turns and gear changes. The lesson was recorded on audio tape by the speaker in the front passenger seat and on video tape by a colleague in the back seat. Although originally shot on half-inch black and white open-reel video tape, the lesson was eventually copied onto video cassette for optional student use on an individual basis to complement a unit on driving in a French conversation class.

Ozete (1971) and his colleagues at the University of Wisconsin produced a 25-minute video tape on a step-by-step procedure of making wine. The production was recorded in Spanish and English on two audio tracks so students could switch from one to the other while viewing the tape. The tape also included subtitles of 16 important Spanish words flashed on the screen throughout the presentation to enhance comprehension. A 10-item multiple-choice (with answers) was also presented towards the end of the presentation as a way of reinforcing what students had just learned.

Oates and Hawley (1983) have prepared video tapes based on interviews with foreign travelers to their community. The authors describe meeting the guests, learning about them, and taking snapshots. The pictures and biographies are then passed out to students who prepare written questions they would like to ask when they eventually meet the guests. After they are submitted to the teacher and corrected, the questions are returned to students who practice asking and answering them in groups of twos and threes. Some role playing accompanies this exercise. Finally, the travelers arrive and a 10-minute taped interview takes place. The tape is later played back with and without sound to focus on language, gestures, and the use of filler-words and hesitation formulas.
And yet, one of the most impressive uses of video tape took place in the Ohio State language laboratories as early as the 1960s. Students of Spanish could use a dial-access system on an individual basis to retrieve video-taped dialogs on La Familia Fernandez for study and review. Estrellas (1966) used the same type of system at Florida Atlantic University where students used individual receivers in each booth for a self-instructional program on Spanish syntactic structures.

Several articles have appeared in the literature on satellite transmission, although American systems still focus mainly on programs from the Americas. Aulesia (1983) reports the satellite operation at the University of Maryland Baltimore Campus where with the aid of a 3.5 meter parabolic dish antenna and specialized video equipment, they have been able to receive and record four Spanish-language and three French-language channels from neighboring countries: "UMBC engineers have a daily schedule of French and Spanish commercial and non-commercial TV programs in North America. These signals are de-modulated, amplified, and re-transmitted to the Language Media Center and to most classrooms around campus."

Kavenaugh (1983) describes the work of the National Commission for Internationalizing Education through Satellites, a nationwide group of specialists in language and international studies, curriculum development, media production, satellite technology, and communication law. Their focus is on live, two-way interactive telecommunication to "transfer applied skills and theoretical knowledge across cultures and national boundaries". In addition to the advantage of interactive rather than passive viewing is the ability of the system to allow students to converse with people in authentic locations such as the marketplace, farm, factory, or home, etc.

Many Europeans already have the ability to view programs at home in many languages. Viewers having cable in Belgium, for example, can receive programs in English, French, Dutch, and German from England, Holland, Germany, Luxembourg, and France in addition to their own programming, already in two languages—quite a variety to view and record. One could easily record programs in any of several languages on one set and then play tapes on special machines in the United States equipped for PAL and SECAM video cassettes.

One hears relatively little about closed-circuit television nowadays, although there was frequent reference to it in the 1960s. Several universities televised instruction from a studio to classroom monitors scattered around a university campus. Classes were supervised by an instructor who would follow up, answer questions, and otherwise supplement a 20-25 minute televised lecture/demonstration. One major study by Buffington (1960) describes a televised German reading course at Pennsylvania State University which was unique because it had provisions for contact between the television instructor and students in several classes across campus. Each day, proctors would give the television instructor a list of the students to be called upon during class. Since their answers were to be heard by many fellow students, they were motivated to prepare well, to speak clearly, and to pronounce well. The author contends that his students had never pronounced so well as during this particular course.

Closed-circuit television is being used at the present time to teach Spanish to remote schools in Iowa not having their own instructional staff. Volkman (1983) describes a program whose acronym TWIT stands for "Two Way Instructional Television", a "unique microwave system designed to meet special needs of small town Iowa schools with enrollments of 250-870 students in grades K-12". The system links the schools of Morning Sun, Wapello, and Winfield in an interactive system of two-way audio and television microwave transmission. A federal grant of $250,000 is underwriting the entire program which includes instruction in several subject areas.

A recent Newsweek article (Gelman 1984) proclaims that we are now in a video revolution, sparked in large part by video-cassette recorders. The revolution also takes into consideration technological innovations that could improve the quality of reception and the facility of use. These innovations include high definition television, digital television, and the system offering perhaps the greatest promise for education, interactive video disc.
High definition video already produces sharp images with "the stunning appearance of three dimensionality". Digital TV offers advances that Dodge (1980) believes "could see the obsolescence of microfilm, slides, motion pictures, VTR, and videodisc. It has the ability to store still pictures or film for retrieval when desired and eliminate the incompatibility of standards among the different nations’ television systems." The Nippon Electric Company, a major Japanese manufacturer of electronics, has a digital set "that will freeze up to four frames in memory then print out the images on a thermal printer" (Marbach et al. 1984). Digital TV, which is expected to be on the market toward the end of 1984, will actually be a cheaper form of video since hardware will be placed on a few silicon chips.

Stereo television has particular promise for language students since it will permit dual-language telecasts. The standard monaural channel will be replaced by three audio channels for each video channel, two for stereo, and a third for a separate audio program which can be used for simultaneous foreign language telecasts.

Also emerging on the market is the 8mm video camera and recorder, not to be confused with the Super 8 motion picture camera. The new 8mm equipment is lightweight and will be of great interest to those who wish to make on-location tapes. Besides being lightweight, it features the ability to review and edit tape in the field. With an adaptor, this VCR will be compatible with half-inch VHS and Beta systems (Sealfon 1984).

One recent advance that has particular potential for foreign language education is interactive video-tape and video-disc technology. In simple terms, this is a marriage between television and microcomputers.

INTERACTIVE VIDEO-DISC TECHNOLOGY

Magnavox pioneered video-disc technology in 1978 and was soon followed by Sony, Pioneer, and Discovision (Levin 1983). The system uses a laser beam of controlled light reflected off the surface of a 12-inch silver-colored disc similar to a phonograph record. Each disc can store 54,000 images per side which can be retrieved in any combination of motion or still sequences within four seconds (Dodge 1980). The video disc is hooked up to a microprocessor which makes for a system with enormous potential for language learning.

Interactive video, like newer video-cassette recorders, will enable the user to repeat, interrupt, slow down, or reverse a program at will. Video-tape and video-disc players can be hooked up to computer monitors, producing sharp clear images, or to standard television receivers (Cohler 1984).

McGinty (1984) finds that interactive video captures the spirit of video games on one hand and encourages student decision making on the other by offering remedial assistance or additional information at any pace or sequence desired. "One can take existing materials and add computer generated material or record one's own scenes and then program the written commentary adding computer graphics."

Although much has already been written about the development and promise of video disc, there has been relatively little regarding foreign language learning. The most ambitious pioneering efforts in developing software for language study are being undertaken at Brigham Young University in programs of Spanish, German, Hebrew, and Korean. Programs at BYU will be expanded in the future to include other languages (Jones personal communication). Meredith (1983) discusses these programs "which allow students to visit a foreign country and work through a variety of language and cultural experiences". Not only can the student answer questions on the keyboard but he can record oral responses by means of a voice-activated tape recorder.
McGinty (1984) discusses Brigham Young's Spanish language program *Montevedisco*, a program whose film sequences were taken in Mexico. A complicated interactive computer program allowing maximum choices was carefully integrated into the entire video-disc program to produce the following film sequence:

A tourist enters a Mexican drug store complaining of a headache. The pharmacist asks whether he prefers tablets or an injection. If he chooses tablets, the program branches to another scene; if he chooses injections, the pharmacist injects the tourist who falls to the floor and is then taken to the hospital where other adventures and questions await. Students can work with materials many times before exhausting possibilities, adventures and information.

In addition to Brigham Young University, the Defense Language Institute and the U.S. Air Force Academy are also engaged in producing language programs for interactive video.

There are those that hold that video and computers alone have had limited success in language education but that the combination of the two may be a significant breakthrough. Levin (1983) opines that educational television has not delivered the quality results that were envisaged two to three decades ago. Although he feels the microcomputer has provided some advantages over the passive nature of television, "the motivational and entertainment value of computer-assisted instruction software has never competed with the color, sound and action of the TV program".

Educators are as optimistic over the potential of video disc as they have been for other recent advances in technology. Since video disc is in its incipient stages with relatively few foreign language projects taking place at present, it is natural that people adopt a "wait-and-see" posture. McCoy and Weible (1983) share the opinion held by others that video disc may have its greatest potential in programs of individualized instruction.

CONCLUSION

Lack of space prevents a detailed account of research studies on the use of video in language teaching. Furthermore, the field of video and all its possibilities is so vast that it would necessitate a separate report. There are studies concerned with FLES, follow-up activities, right brain hemisphere, tele-courses, etc., all of which focus on one particular aspect of video. In spite of the positive tone of many studies, it is still difficult to find any significant, definitive study attesting to the value of video in second language learning.

McCoy and Weible (1983) write that studies on the effectiveness of visual-based instruction, especially film and television, are elusive. Mueller (1980) argues that empirical support for promoting the widespread use of visual aids in language teaching and how students benefit needs considerable research. There does seem to be consensus among practitioners that significant differences favor visual-based learning. Certainly, many are encouraged by the positive and enthusiastic feedback they have received from students; on the other hand, some reports mention that visual aspects of a presentation actually divert one's attention from the lesson at hand. Still, the energy and enthusiasm expended by project developers often carry over into the class and are shared by students, especially when the students, themselves, are involved in the production.

This matter of teacher interest and enthusiasm is at the very crux of classroom use of video, especially as far as supplementary materials are concerned, for without a willing teacher, this type of activity could not exist. What makes the use of television so interesting and so frustrating as well, is that there is such a complete range of possibilities. More importantly, the teacher is forced to determine how video can or should be used to help students learn and to make class more interesting, or both. The endless options help create a frustrating situation that only
encourages a resigned acceptance of the status quo. Lindenau (1980) finds the great variety of technology too much for some to handle:

Interactive video, two way interactive cable, VTRs, videotex, computer-managed instruction, satellite broadcasts, microcomputers, videodiscs, filmstrips, slides, in-house video production, shortwave radio, teleconferencing and many other emerging technologies all have techniques of operation that vary; even among various brands of the same technology, operating instructions are by no means standardized. The prospect of having to keep up with all the existing techniques of operation is enough to put most teachers into a state of technological shock; it does not encourage them to use technology to support their teaching.

If being overwhelmed by technology is one problem, there is also the problem of time to be considered. Some need to know how equipment functions and how it can be incorporated within a program of language study. Lindenau finds that altogether too many schools hinder the use of audio-visual aids by making them physically inaccessible or by requiring all sorts of prior arrangements. She feels that libraries and learning centers should house and provide technologies; the teacher's role is to determine how they can be integrated into the curriculum, and this is where they need help.

Lindenau's solution is for more active concern with technology in teacher-training institutions, many of which offer neither specialized coursework to degree candidates nor in-service workshops or courses to practicing teachers.

Till the present time, technology has not dominated language teaching to the point where the teacher's role is merely a supporting one. Even the use of integrated materials has only had limited success. Whether this changes or not remains to be seen. Great success in terms of student learning and enjoyment has always occurred when language teachers have been able to integrate audio-visual aids in a meaningful way. The greatest potential for technology still lies in the teacher's willingness to include it in his teaching. Frustrating or not, the options appear more and more attractive.

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