AUDIO-VISUAL MATERIALS AND METHODS
FOR IMPROVING THE TEACHING OF
FOURTH GRADE READING

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by
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AUDIO-VISUAL MATERIALS AND METHODS
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CHAPTER I

INTRODUCTION

Throughout the passing of time education has been the highway that carried humanity onward to new and higher standards. The open book has been the vehicle that transported mankind on this route to knowledge and the ability to read has been the speedometer that set the pace for learning. Great scientific advances in recent years call for more acceleration in the growth of knowledge.

There has been increasing concern about the teaching of reading. The suggestion has been made that the application of improved audio-visual techniques would help to achieve better results in the teaching of reading.

The understanding of ideas communicated by written words has been cited generally as the number one instructional problem in our public schools today. Increased birth rates, rapid technological advances, and public demands have increased the amount and variety of subject matter and have contributed mightily to the school load. Fortunately, the production of time-saving audio-visual communications has improved very rapidly in quantity and quality. With the equipment available, the problem has been the proper utilization to obtain the desired educational results.
I. THE PROBLEM

Statement of the problem. The problem was (1) to determine the criteria for selecting and evaluating audio-visual aids to be used at the fourth grade level; (2) to determine how reading could be taught to fourth graders making effective use of audio-visual aids as supplementary materials; and (3) to arrive at a workable, effective program of audio-visual aids for teaching reading at the fourth grade level.

Need for the study. The teaching of reading has frequently been stressed as the most important learning which takes place at all elementary grade levels. It was considered important that an investigation in audio-visual aids be undertaken to determine which audio-visual methods and materials could be utilized effectively to enhance achievement in reading.

Purposes of the study. Purposes of this study were (1) to determine professional opinions, criteria, and current progress relative to time allowances and the latest findings and accomplishments in the field of audio-visual instructional aids in reading; (2) to determine the values and discover ways of using the various available audio-visual materials, resources and activities for fourth grade reading enrichment; (3) to select those audio-visual aids
that would best meet the various changing needs of fourth grade children's reading instruction; and (4) to report the considerations basic to the proper utilization of these audio-visual aids in fourth grade reading experiences to maintain the goal of the best possible instruction pro-
graming.

Limitations of the study. Fundamentally, this study was limited to investigation into the proper applications of audio-visual methods and materials for reading instruction for only one class of fourth grade students, taught by the writer, at the East Bremerton Elementary School, Bremerton, Washington.

During the 1961-1962 schoolyear a total of forty-four students enrolled in the fourth grade class under study. In June of 1962, cumulative records of only seventeen students were available for complete analysis purposes. This enrollment variance was due to the East Bremerton Elementary School being in a federally impacted area, with the residence and attendance duration dependent on the parents' tour of duty in the locale.

II. Definition of Terms

Throughout the writing of this report, references will be made to various terms as defined herein.
Audio-visual materials. The term audio-visual material is employed as designation for a wide range of instructional materials and devices that are less symbolic than the printed word-field trips, demonstrations, dramatizations, synthetic devices (contrived experiences), objects, specimens, models and exhibits, sound motion pictures, television, silent motion pictures, sound film strips, radio recordings, stereographs, lantern slides and film strips, flat pictures, charts, maps, and graphs and diagrams.  

For purposes of this study, the selected audio-visual materials included educational television, Standard School Broadcasts, electric board, films, filmstrips, slides, opaque projector, maps, tape recorder, and clippings from magazines and newspapers, which were utilized in the fourth grade class under study, during the 1961-1962 schoolyear.

Audio-visual methods. The audio-visual methods of instruction are the procedures and techniques used to more effectively clarify, establish, and correlate accurate concepts, interpretations and appreciations through utilization of more than one sensory channel "to facilitate the understanding of the written or spoken word." The recommended methods in the utilization of audio-visual aids include careful selection of materials, a preliminary examination

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of the material prior to class presentation, and the proper placement of the material in the lesson with adequate preparation and follow-up.¹

**Cross-media approach.** The interrelated use of audiovisual materials to reinforce one another is known as the cross-media approach.

The cross-media approach to classroom instruction places full responsibility on the teacher for analyzing the learning needs of the pupil, for knowing about sources of audiovisual materials from which he can select those which will help satisfy learning needs, and for knowing how to use a cross-media array of materials efficiently so as to achieve the full measure of its learning potential.²

**Reading enrichment.** Reading enrichment is the act or process of increasing the quality or quantity of the offering in a unit of instruction by the inclusion of pertinent illustrative and related material with the basic reading material or lesson to be taught.

**Integrated course of study.** An integrated course of study is one in which pupil activity is centered in themes


or areas of living and which draws on the content of the various school subjects as mutually associated in some genuine life relation.

**Correlated course of study.** A correlated course of study is a course of study in which textual references are made for relating materials in one subject field with pertinent materials in other fields.

**Balanced reading program.** A balanced reading program is a reading program in which basal reading, recreatory reading, curricular or study reading, and corrective reading instruction are stressed, each according to its importance, and no aspect of the program is overemphasized to the neglect of the other.

**Interest.** Interest is a subjective-objective attitude, concern or condition involving a percept or an idea in attention and a combination of intellectual and feeling consciousness; interest may be temporary or permanent; interest is based on native curiosity, conditioned by experience. Interest is also any preference displayed when choices are available.\(^1\)

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Teaching tools for Kitsap Schools. Kitsap County Materials Bureau, Bremerton, Washington, provided the audio-visual catalog, "Teaching Tools for Kitsap Schools." The catalog had cross-section references and included some criteria for selecting and evaluating audio-visual material. It listed the available slides, filmstrips, field trip information, films, packets, records, tapes, and overlay transparencies. These materials in this audio-visual catalog had been carefully screened, described, and classified as to most desirable curriculum placement.

Standard School Broadcasts. Radio's oldest musical and educational program, The Standard School Broadcast, was presented by the Standard Oil Company. The teacher's manual served as a listening and correlation guide to the 1961-1962 series, "Music--Passport to the World." This series comprised of twenty-six weekly half-hour programs devoted to music in relation to geography, history, legends, art, literature, and everyday life of various cities, countries, and other regions.

Educational Television, Channel 2, KCTS-TV. The teachers' guide for classroom viewing of Educational Television, Channel 2, KCTS-TV, Seattle, Washington, provided some basic considerations for integrating televised instruction which would complement the basic fourth grade
reading curriculum. This educational television station was licensed by the University of Washington, Seattle, Washington.

Unit. A unit is a central theme around which activities in the subject fields are developed. Examples of fourth grade units were Our Earth, Sound, Air, Magnetism and Electricity, Simple Machines, and Outer Space.

Intelligence quotient. The intelligence quotient is the most commonly used device for expressing level of mental development in relation to chronological age, obtained by dividing the mental age (as measured by a general intelligence test, such as Otis Mental Maturity Test) by the chronological age and multiplying by 100.

High Intelligence, Average Intelligence, and Low Intelligence Groups. Comparisons of the individual intelligence quotients provided the basis for sub-dividing the students into three intelligence groupings for evaluation of abilities compared with achievements, for purposes of this study. Students included in the high intelligence group were those having an intelligence quotient above 110. Students included in the average group were those having an intelligence quotient between 90 and 110. Students included in the low intelligence group were those having an intelligence quotient below 90.
Grade score. The grade score is a derived score that expresses the ability or achievement of a pupil in terms of his grade level for which the performance is typical; thus a grade score of 6.2 indicates that the child is achieving at a level equal to that of the typical sixth-grade pupil in the second month of the school year.

Norms. Norms are standards or criteria. Test norms give information about the performance of a particular group on a particular test and thereby provide a set of criteria against which can be compared the performance of any individual taking that particular test.

Percentile norm. A percentile norm is a point on a scale of measurement defined by the percentage of cases in a large representative sample or population obtaining a score equal to or less than the value of that point.

III. PROCEDURES AND ORGANIZATION OF THE STUDY

This study was conducted during the 1961-1962 school year at Bremerton, Washington, using the fourth grade class of East Bremerton Elementary School as the subject under study. The writer, hereafter referred to as the investigator, taught this self-contained classroom.

The objective was to determine, through reporting of classroom progress in reading, how audio-visual methods and
materials could be used effectively to supplement a reading program. Criteria were determined to aid in selection of materials.

The investigator determined from cumulative achievement records of students what the various reading abilities were and made individual analysis and group analysis. With this information as a guide, selections of audio-visual methods and materials were made with the intention of providing incentives towards added reading interest and consequently greater achievement. Tests and class discussions were used to determine student interest gains in subjects being studied. Library records and student reports on books read were used to gain indications of interest, after use of the various audio-visual aids.

Various methods were used to analyze, describe and appraise the effects of a program using audio-visual aids with the fourth grade class.

A questionnaire to parents provided the parent-student evaluation of the specified audio-visual aids in regards to changed attitudes to school, interest in school work, parents' comments on students' attitudes toward school and learning and student's comments about their school experiences.

Pupil's cumulative reading test records provided the basis for determining reading growth and achievement in
relation to standardized norms. Attendance records of the pupils involved were also reported.
CHAPTER II

REVIEW OF THE LITERATURE

This study has been directed to the use of audio-visual materials and methods as an aid to improving fourth grade reading. In this review of the literature the objectives were three-fold.

First, research findings were sought relating to ways that reading could be taught, making effective use of audio-visual aids as supplementary materials.

Secondly, research findings were reviewed to determine the criteria for selecting and evaluating audio-visual aids as supplementary materials.

Finally, it was desired that the results of these research findings would enable the investigator to arrive at a workable, and effective program of audio-visual aids for teaching reading at the fourth grade level.

I. HOW TO USE AUDIO-VISUAL AIDS TO TEACH READING

Davis has stated:

The overall relationship of audio-visual materials to the reading program is summarized in the following quotation: "Direct experiences, fieldtrips, pictures, movies and radio, and the like are essential to the development of meanings. We limit the effectiveness of our reading instruction by neglecting the experiences
which develop the meanings of the printed page. . . .

Non-projected pictorial materials, long used in the reading program, have proved their usefulness in the readiness program. They provide experiences which stimulate oral language development, evoke discussion, develop desire to talk, and teach pupils how to use picture clues in reading. . . .

First hand contacts through field trips or with objects and specimens brought to the classroom provide an effective means of helping children to recognize words, to develop clear understandings of ideas, to develop apperceptive abilities, to build vocabularies, and to grow in visual discrimination.

Bulletin boards, flannel boards and chalk boards are also essential tools. . . . Bulletin boards and other display devices may provide stimulating reading environment. Association of words and pictures through the use of bulletin or flannel boards involve physical and mental coordinations. Their use often provides pleasing emotional experiences. Pupils may use them in matching objects, picking out and matching words with pictures, playing games and constructing sentences.

Tape recorders and phonographs are indispensable in teaching reading, language and literature in all grades. Creative stories and dramatizations may be recorded on tape and used later for vocabulary study. Improvements can be checked and measured through recorded tapes. Special radio programs may be brought to class on tapes. The tape recorder may be used to teach proper pronunciation and enunciation. Professional story tellers may be brought to the class on tapes and phonograph records.

Maps, charts, diagrams and original drawings may be used effectively to clarify, extend or give meaning to readings. They may be used to help organize and summarize materials and make records of experiences. . . .

Besides all these specific aids to reading there is a wealth of general and related materials to use in devel-

1H. J. Davis, "Teaching Reading the A-V Way," Educational Screen XXXI (December, 1952), 418.
opening skills and understandings needed in learning to read. Any list of Coronet films contains many examples: *How to Study, How to Read a Book, Its Fun to Read Books, Improve Your Reading, Maps are Fun.* ... In fact, practically all well-prepared audio-visual materials on any subject will help in the reading program.

The visual approach in the "New Castle Reading Experiment" has shown that a child's emotional and social growth need not be thwarted at the cost of teaching him to read. On the contrary every pupil in the class, regardless of his mental ability or apparent readiness for reading, experienced success and was more socially confident. The basic principle behind the program was that every textbook lesson could best be introduced and taught from a large image projected on the screen, with the textbooks themselves serving as testing materials and practice materials.

Yoakum discussed needed improvements in basal reading programs suggested by the criticisms found in current literature:

Visual and auditory aids, excursions, and experiences with objects, persons, processes, and events should be freely used to build a foundation of experiences which will aid the child to interpret what he reads.

Classroom teachers in self-contained classrooms should be brought to understand more clearly their responsibility for articulating their basic reading instruction in recreatory and curricular reading and for developing a program which takes care of all the reading needs of the children.

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Criteria for selecting and evaluating field trips. Brown has reported the following criteria for selecting a proposed field trip:

Does the trip fit naturally into the work students are doing in the classroom?

Can it be completed in the allotted time?

Does it have enough value to justify taking considerable class and teacher time?

Will it provide important observational experience which is unobtainable in other ways?

Is the trip suitable to the grade level, and one which will arouse the students' interest?

Is it a representative location with general applications?\(^1\)

Criteria for evaluating every audio-visual material. Eight specific questions have been set down to offer a basic standard for realistic evaluation of every audio-visual material:

Do the materials give a true picture of the ideas they present?

Do they contribute meaningful content to the topic under study?

Is the material appropriate for the age, intelligence, and experience of the learners?

Is the physical condition of the materials satisfactory?

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Hubert J. Davis has pointed out the need for special aids for teaching reading as follows:

... reading is a difficult task comprising of skills, doing, growing and making personality adjustments. The teaching of reading needs printed matter, motion pictures, filmstrips, flat pictures, records, bulletin boards, charts, trips, and other materials to make it most effective.

Projected materials--such as motion pictures, filmstrips, slides, opaque materials--may be used effectively to bridge gaps in pupils' experience and language comprehension. All pupils come to a reading activity with a vocabulary and an abundance of experiences. However, so little of this is common to the whole group that projected materials are needed to provide a common denominator. When projected materials are used, each child may participate in a common experience and each respond to the same stimuli.

No one piece of equipment or type of audio-visual material may be singled out as best for teaching reading. Each has its own unique contribution to make.

Ten years of research into the needs of the elementary reading program have resulted in the publication of D. C. Heath and Company's series of film readers correlated with Encyclopaedia Britannica Films. Reasons why those reading materials based on key scenes shown in a motion picture resulted in better reading were stated by Gorman in an article, "An Adventure with Film Readers":

1. Films provide a common fund of experiences and the same vocabulary for all members of the class.

2. Motion pictures have a universal appeal to

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children and provide stimulating motivation.

3. The ease of contextual recognition of words is greatly increased.

4. The voice and delivery of the commentator provide an excellent example which the children automatically imitate in their oral reading.

5. Both the slow learner and the bright pupil, who because of personality maladjustment will not apply himself, are benefited.

6. Free reading of other books is encouraged.¹

A problem that has confronted the teacher when a class studied a text was the inability of all students to get a nearly similar concept of subject matter involved. Leitch, audio-visual coordinator in Lincoln Junior High School, Santa Monica, California, believed that in the usual selected group of thirty-five students, where there may be a spread of five years in reading ability, and a corresponding difference in ability to visualize concepts adequately, the major problem of the teacher was to get something like the same mental picture into the minds of the class.

To remedy this lack of student's ability to visualize concepts which occurred with textbooks and lecture method, a broader concept of the curriculum with complementary audio-visual communication was provided.

Audio-visual materials are especially valuable to students in the lower and upper quartiles; to those in the lower quartile because they cannot visualize well from words, to those in the upper quartile, because they provide the inspiration for research in the library. This research not only enriches their education, but also keeps them from forming bad study habits which usually come to students held back by the progress of the slower students in the class. These audio-visual materials are valuable to the whole class in other ways because they furnish motivation, increased education, and save much time...

Concrete visualization furnishes part of the explanation for this increased efficiency. That which one clearly perceives, he can understand, and through this increased comprehension comes a longer and better retention. The powerful motivation which is inherent in these communications is another important factor in this increased efficiency. After viewing...the student willingly reads his textbook on the subject and he covers it rapidly and understandingly, because the words now bring clear images to the mind...

The instructor also benefits from such enrichment. With these complementary tools of learning he has increased his efficiency to a great extent. The time which he formerly lost in trying to bring understanding to the lower quartile of his class now can be employed to direct the inspired research of the upper quartile. However, the success which he achieves depends largely on the utilization which he makes of his materials.¹

In defense of mechanical devices for teaching reading, Herr said that many individuals who have experienced failures rebelled at using workbooks or other printed instructional material, but accepted reading training on a machine when a high-interest level program was presented at

the individual's instructional level.¹

Electric board programs have provided strong appeal to students. This self-testing device has served to develop reading vocabulary and numerous other purposes.²

Kinder said that the opaque projector's usage has stimulated better attention, has aroused interest, has clarified information, and has caused better retention. Library books may be discussed, individual study materials may be enlarged for group study, tables, charts, and maps may be presented, exercises from workbooks may be explained, and pupil reports may be made more vital and interesting. Its use is limited only to the imagination.³

Davis said the tachistoscope has made it possible to teach pupils to read much faster and to understand much better.⁴

Another report of selected methods which revealed effective use of the tape recorder was contributed by

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¹ Selma E. Herr, "Proper Training Necessary for Best Results," *Film World* (November, 1962), 481.


Crossman in his article, "How to Be Several Places at One Time."

Pupil reaction, very favorable. The other teachers who have used this method of drill are just as favorably impressed. They comment of the time they can spend on other activities, how rapidly the children learn with this new device, and how well pupils retain what they have learned. . . . It also gives the teacher a better chance to move among the students and detect deficiencies even more readily than in the past. Parents are happy with the results achieved also. . . . The mother credits the use of the tape was the factor responsible for sudden rise in speed and accuracy.¹

The teacher to-day is confronted with the problem of expanding knowledge at all levels of intelligence. Weber reported some basic considerations for selecting and evaluating visual aids for improving the curriculum.

The younger the school child is in experience and mental age, the greater the value of pictures in the learning process, and furthermore, the lower he is in intellectual capacity, as indicated by his intelligence quotient, the greater is the necessity, for the use of visual aids in his instruction. Not only do visual aids serve to motivate learnings and vitalize the curriculum, but they also act as a preventive of retardation and elimination. While the greater part of retardation in our schools is the effect of other causes, a considerable fraction is due to uninteresting methods of instruction and to stale and incomprehensible subject matter. The same is true of elimination, for most of it is the inevitable consequence of retardation.²

¹Clark W. Crossman, "How to Be Several Places at One Time," Teaching Tools, LV, No. 4 (Fall 1957), 151.
The following quotation from Weber supports the theory that audio-visual aids could be used for enrichment and correlated:

... It should be pointed out that the usefulness of visual aids--films, slides, stereographs, and other realia--is specific; that is, the usefulness of any one visual aid varies with every topic or project. Visual aids are supplementary to actual experience, and both are fundamental to verbal instruction. Visual aids thus provide perceptual foundations where actual experience is lacking and enable verbal instructions to transmute these into conceptual products through the processes of interpretations, integration and generalization.¹

Radio transcriptions, tape recorders, and records have filled a real need in the school's reading enrichment program. Memory frequently makes an inaccurate retention or otherwise loses the aural content whereas sounds transferred to wax, plastic, film, tape, or wire, may be recalled within a few moments or heard again after a lapse of many years. Many recordings have become historical documents. The alert teachers have been aware of the potential values and the direct long-range compensations which records and transcriptions insure when they are intelligently shared. Norman Woelfel has stated:

Just as pictures provide experience through sight, the radio or the recording can give a wide variety of experience through hearing.²

¹Ibid., pp. 284-286.

Norma Cutts and Nicholas Moseley have discussed how audio-visual aids are being used and have considered their effectiveness:

Education is still only on the threshold of the world of automation. Even such long-time favorites as filmstrips, motion pictures, and record players offer possibilities for individualizing instruction that have been little explored. Tape recorders are being tried in many fields. TV has barely made its debut in the classroom. In today's classroom one child may be viewing stereopticon slides, another child listening through ear phones to a tape recording of his own speech, and a small group using filmstrips, while the teacher works with a fairly large group using a basal text.

Automation, including TV, already makes it possible for the curriculum to include subjects, like foreign languages, music, and science, in which the classroom teacher may not be an expert. Moreover, by this means instruction can be adapted to meet the needs of one pupil or a small group of pupils in a large class. Techniques of organization, planning, and evaluation are still being developed, but they will probably be much like those now used in a unit... Mechanical, visual and, might we say, oral aids to instruction have the great advantage of novelty. They catch the children's attention and create a feeling of excitement, and thus promote quick learning and good retention. For this reason it is difficult to assess the relative effectiveness of older and newer methods. There will always be pupils who learn better by seeing and hearing demonstrations than they do by reading. But no one now knows whether in the long run automation will increase the effectiveness of classroom instruction... The greater probability is that the curriculum will be broadened and the individual needs of pupils better met. You may well take part in work toward this goal.¹

Lazar has contributed a number of criteria for

planning and evaluating the effectiveness of any reading program:

Provides for individual differences.

Recognizes interest and purpose as important factors in learning.

Allows a child to learn and develop at his own pace. Does not demand that he fit into a predetermined "grade level."

Includes reading activities which develop the reading skills in functional ways.

Recognizes the opportunities for the development of skills in the content areas....

Emphasizes the interrelation of all language arts which are based on wide and interesting experiences that provide excellent content for reading, discussion, dramatization, and other activities.1

Harrison stated the evaluation procedure as follows:

Evaluation in education has been defined as a continual process of determining progress toward predetermined goals. It therefore involves (a) determination of goals, (b) criteria for determining present status, and (c) criteria for determining progress. Evaluation must be thought of as a part of every learning process and not something that should be added or attached.2

Several research evaluations of audio-visual aids used to supplement instruction were related to the present study.

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1May Lazar, "Individualized Reading: A Dynamic Approach," The Reading Teacher, XI (December, 1957), 76-77.

Evaluation of 'radio classes' has shown a definite increase in the recognition of the value of records and transcriptions as an educational asset. These studies have proven the contribution to the individual's educational and personal growth. The students were psychologically ready to listen and the programs were suitable to their maturity level:

A study carried on in Cicero, Illinois, by the Evaluation of School Broadcasts projects definitely indicated that student interest in scientific information could be greatly intensified through the use of recordings. This controlled experiment showed a greater retention of information by the 'radio classes'.

The effectiveness of recordings in the development of desirable interests and attitudes has been corroborated in another interesting study. . . . Classes were found to have been stimulated by these recorded experiences to develop many activities, and to delve much deeper into the question. . . . These two studies suggest that when problems are presented in the classroom with a high degree of vicarious reality, students will personalize their interest to the point of active attempts to discover information which will help solve problems with which they are confronted.

The following evaluation of film and non-film classes provided evidence of increased achievements for the film-instructed group.

Columbia University made one of the most comprehensive studies with film instructed students and non-film instructed students of general science and geography. Nearly 11,000 students participated in three large school

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1Woelfel and Tyler, op. cit., pp. 188-189.
systems and the outcome was measured by three tests. This "Motion Pictures in the Classroom" research showed the film-instructed students were greatly superior to the non-film group:

If we examine the average gains made by the entire group of children in all cities and on all topics taken together, we find the film group excelled the non-film group by 33 per cent of the standard deviation on all the scores. In the topics of General Science, the gains of the film group exceeded those of the non-film group by 15 per cent of the standard deviation... These are substantial differences. The detailed evidence that the differences are reliable is presented in the body of the report.¹

Geigle's research showed that standardized achievement test scores in all subjects tested were higher after foreign language instruction supplemented the curriculum. Geigle has reported on the results of the study measuring achievements before and after inclusions of instruction in foreign language as follows:

In 1954–55 French was taught for 20 minutes daily in each of four third grade classrooms. A teacher who spoke the language fluently worked in the rooms on an itinerant basis. The same pupils continued their study of French in the fourth grade. As a partial evaluation of this program, a comparison was made between the scores of these fourth-grade pupils on standardized achievement tests and the scores of fourth-grade pupils in the four previous school years. The results of these comparisons indicated that the fourth-grade pupils who had studied French scored well above the norms in all

subjects tested (reading, arithmetic, language usage, and spelling). . . .

Wittich and Schuller have contributed a helpful, graphic guide for effectively integrating audio-visual methods and materials in the classroom to make them become true media of communication for both learning and teaching, not simply aids or crutches. Their report stated that the most effective use of audio-visual materials of instruction was attained when they were selected in terms of their known value in creating or re-creating realistic and interesting learning experiences. The various "Contributions of Audiovisual Instruction Materials to Learning" are presented in Table I.

Key responsibilities assumed by the teacher were listed in this same report as (1) definition of learning goals, (2) selection of learning experiences, (3) correlation of appropriate learning experiences, and (4) guidance of the class in using these materials in accordance with the best research and utilization principles.

Application of the teacher's skill, imagination, and guidance in the use of audio-visual materials was attributed to make the difference between successful and mediocre

TABLE I

CONTRIBUTIONS OF AUDIO VISUAL INSTRUCTION MATERIALS TO LEARNING

<table>
<thead>
<tr>
<th>Visually re-creates situations involving motion which occur anywhere</th>
<th>16 mm sound motion-picture films</th>
<th>Slides</th>
<th>Flat pictures and chalkboards</th>
<th>Posters and charts</th>
<th>Maps</th>
<th>Chalkboard</th>
<th>Fieldtrips</th>
<th>Radio</th>
<th>Recordings and transcriptions</th>
<th>Language Labs and tape recorders</th>
<th>Models and specimens</th>
<th>Televisions and kinescopes</th>
<th>Teaching machines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visually re-creates the past</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>Visualizes theoretical ideas and microscopic life</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>X</td>
<td>X</td>
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<td>X</td>
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<tr>
<td>Visualizes with natural color</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>Visualizes natural dimensions (three dimensional)</td>
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<td><strong>AUDIO</strong></td>
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<tr>
<td>Re-creates characteristic or environmental sounds</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>X</td>
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<tr>
<td>Re-creates events through dramatization</td>
<td>X</td>
<td>X</td>
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<td><strong>UTILIZATION</strong></td>
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<tr>
<td>Sequence fixes</td>
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<tr>
<td>Flexible organization permits rearrangement</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Permits restudy</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Permits leisurely examination, discussion, etc.</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>X</td>
<td>X</td>
<td>X</td>
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<td>Control of time place of use</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>Can usually be produced locally</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
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</tbody>
</table>

*Sound filmstrips

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use of these media.

Visiting selected classrooms, which are close to or identical with your own professional training or teaching interests, was proposed.

The following plan for the workable, effective usage of audio-visual materials in day-to-day teaching was outlined in the Wittich and Schuller report:

Set up objectives or goals.
Preview and select instructional materials.
Plan introductory interest-inciting activities.
Provide for the planning of purposes by the pupils.
Secure selected audio-visual instructional materials and arrange for their use.

Tentatively plan follow-up activities.

Objectively evaluate outcomes in terms of pupil interest, understandings of new information, and pupil initiative in pursuing self-inspired activities.\(^1\)

This may be an objective measure of your grasp of the significance of the role of audio-visual materials and techniques in implementing the curriculum and improving instruction.\(^2\)

Monroe stated that the following claims for properly used audio-visual materials are supported by research evidence:


\(^2\)Ibid.
They supply a concrete basis for conceptual thinking and hence reduce meaningless word responses of students.

They have a high degree of interest for students.

They supply the necessary basis for developmental learning and hence make learning more permanent.

They offer a reality of experiences which stimulate self activity on the part of pupils.

They develop a continuity of thought; this is especially true of motion pictures.

They contribute to growth of meaning and hence to vocabulary development.

They provide experiences not easily secured by other materials and contribute to the efficiency, depth, and variety of learning.

Wendt also concluded that research amply justifies the use of audio-visual instruction to a very much greater extent at all school levels. He said:

Although there is need for both more specific and more basic research, we have enough evidence now to warrant much greater expenditures for equipment and materials. Every teacher should know that each kind of audio-visual resource, when used to its fullest where research has shown it can help, results in greater learning in a shorter time with more retention. . . . Audio-visual materials and words almost always work together, each clarifying the meaning of the other.

*Procedures used for teaching with television.* Martha

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Gable has reported some effective procedures to be considered in planning with educational television programs. Teachers are aided in using educational telecasts in the classroom by a daily schedule sent to the school at the beginning of each month. Specific topics and materials to be presented are included. Arrangements are made by teachers to view the telecasts where the greatest correlation can be made with classroom study. Discussions and reading have prepared the class for the programs to be viewed. Follow-up activities are reported to be almost amazing.\footnote{Martha A. Gable, "The Viewers' Views on Classroom TV," \textit{Educational Screen} (June, 1951), 226-232.}

Hainfield stated that using today's television for homework may help meet curricular needs in science and other subjects. He said that commercial television needed the help and encouragement of educators and cited regular television's weather reports as having special value when science teachers are handicapped by the lack of wind gauges, barometers, and such other instruments. "Zoo Parade" and "Mr. Wizard" (NBC network) were mentioned as other possibilities for audio-visual homework.\footnote{Harold Hainfield, "Using Today's TV as Audio-Visual Homework," \textit{Educational Screen} (November, 1951), 358, 359, 374.}

Dale mentioned that shortened film versions of books and incidents from books, sometimes specifically aimed at
motivating reading, were valuable in discussion of what the author intended. Library records showed an increased interest in important books after they have appeared on the screen. Television and radio, like the film, have turned books of the past into books of the day.¹

Smith stated that television itself, aside from the programs designed specifically for instruction, has been an important method of learning. Programs that have brought to the viewer an event as it happened not only have created more interest in the subject but have also allowed a sense of participation in the stream of current events which could not be aroused in any other way. When youngsters are guided to watch highly informative programs on the educational and commercial television screens, "it will help them to become selective adult viewers."¹

The many advantages in television teaching procedures should be known for the appreciation of the teaching potential of television.²

The need and the value of audio-visual materials.


Kinder emphasized that research has verified the need and the value of audio-visual materials and methods. Gains in factual knowledge, gains in retention of learning, reduced training time in developing skills and habits, more self-motivation and interest, influence on attitudes, and increased voluntary reading were included in the instructional values.

Research has also shown quite conclusively that these materials are valuable for students of all levels of ability, and of all age or grade levels, from primary to university.

Television has promised to become one of the most fruitful of the audio-visual materials.

Dale said that the teacher's general purposes in audio-visual selection and use are related to the growth and development of young people to help them learn how to plan, how to read with discrimination, and how to observe with critical awareness.

Effective methods of utilizing audio-visual materials. Dale said that teachers must improve their teaching methods and make use of the most effective audio-visual aids, avail-

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1Kinder, op. cit., pp. 10-16.

2Dale, op. cit., p. 456.
able, for in the coming years a literate population will be more important to our national future than ever before. The problem-solving approach, selecting specific audio-visual materials to meet the students' needs, has offered the only meaningful basis for judging specific materials.¹

Kinder has stated the methods for the effective utilization of the various multi-sensory aids. He indicated that research has shown that effective utilization techniques do not vary a great deal, regardless of the instructional materials used:

1. Research has shown that a variety of teaching used in proper balance produced best learning results.

2. Plans for student participation in visualized or verbalized lessons were necessary for positive learning.

3. Research has shown that there must be class orientation of instructional materials. The introduction usually included the reasons for using, a brief discussion of its content, questions or points to be answered, or difficult or unusual words.

¹Ibid.
4. Follow-up activities, such as tests or oral reviews, should be provided for after audio-visual materials have been used.

5. The use of related activities was equally important—library research, creative projects... .

6. Repeated use of most films was profitable.

7. The regular classroom was the most logical place to use instructional materials.¹

II. CRITERIA FOR SELECTING AND EVALUATING AUDIO-VISUAL MATERIALS

General criteria for selection of audio-visual aids. Noel and Leonard have contributed the following set of general criteria for the selection of audio-visual aids:

1. The grade level for which the material is suited.

2. The curriculum areas or subject fields for which it is appropriate.

3. The authenticity or accuracy of content.

4. The validity of the general impressions which the material gives.

5. The objectivity or bias of the content.

6. The effectiveness of its organization and manner of presentation for instructional purposes.

7. The technical quality.
8. The strong points and weak points of the

Criteria for the selection of specific audio-visual aids. Noel and Leonard have also contributed the following set of criteria for the selection of specific audio-visual aids for a particular instructional situation:

1. Is the material appropriate to the age and grade level of the pupils? The teacher must keep in mind that his pupils vary as much as three years and six months in physical age, and may vary from the third to the tenth grade in their understanding of various subjects.

2. Is it adapted to the understanding and experience of the group?

3. Is it related to the interests and needs of the pupils—needs of which they are aware?

4. Is it related to the unit being studied?

5. What will it contribute to the specific objectives of the unit or problem being studied?

6. Is it interesting?

7. Is it of suitable length? For instance, is it too

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long for small children whose attention span is limited?

8. Are the concepts it presents too difficult? Is the manner of presentation too complicated?

9. Is the information presented too difficult? Is the manner of presentation too complicated?

10. Are the general impressions which it leaves valid in terms of other information and in terms of real-life experiences and activities?

11. What understandings should result from the use of this particular device?

12. What attitudes or appreciations are likely to result from its use?

13. What skills may be improved from its use?

14. If there is more than one type of audio-visual material available for a unit, which one or ones are most suited to my group and which will do the best teaching job in the shortest time?¹

Criteria for selecting and evaluating educational television programing. Television, like all audio-visual materials must be correlated with other curriculum materials. Proper selection, correct environment and utilization

¹Ibid.
may be determined if the following criteria are included in the planning:

The program should have an educational purpose.

The program should provide the possibility of continuity.

The program should present an educational philosophy consistent with democratic values.

The program should be built upon the needs and problems of the viewers.

The program should serve as a means of growth and development for the individual who views it.

The program should involve the viewer as a participant.

The program should be a means by which many creative and thought provoking experiences can come to individuals.

The program should be presented in an atmosphere of objectivity.

The program should be flexible in its design and approach.

The program must communicate clearly and effectively.¹

Criteria for selecting and evaluating motion pictures. Motion pictures, like all audio-visual materials, must be correlated with other curriculum materials. The 4 R's formula, basic principles of all good utilization, has

¹Harold E. Wigren, "What is an Educational TV Program?" Educational Screen XXXI (December, 1952), 420-422, 435-436.
been stated as the "right film in the right place at the right time used in the right way, . . . proper selection, correct environment, and utilization at the proper psychological time."

A good instructional film must have achieved the purpose for which it was intended and must be evaluated by these criteria:

It is interesting.
It is accurate and authentic.
It is up-to-date in setting, costumes, environment.
It is suitable for the maturity level intended.
The VOCABULARY is right.
It is unified and/or sequential.
It ENCOURAGES creativity or leads to further study or activity.
It is technically satisfactory.¹

The American Council Study re-emphasized the teacher's importance in previewing, preparation, showing, and follow-up activities for proper selection and evaluation.²

Criteria for selecting and evaluating radio programs. Radio, like all audio-visual media should be correlated with other curricular activities, with necessary consideration

¹Kinder, op. cit., pp. 113, 162-168.
²Monroe, op. cit., p. 85.
given to radio timing, preparation, reception, and follow-up. Presenting information about the broadcast, assembling of supplementary materials which will make the broadcast more meaningful, and listing of specific key questions, names of places, people and concepts should be included in the broadcast. Integration with other course material and other teaching devices should be planned as an essential follow-up. Kinder cited "Standard School Broadcasts," a specific example of advanced planning for integrated instruction.1

Schuller's criteria for selecting and evaluating educational radio and television were:

Does the broadcast contribute to the solution of one or more of the problems recognized by the group?

Does it create new, worthwhile problems for investigation?

Is it authentic?

Classroom analysis and criticism based on class-developed criteria should also be encouraged.2

Criteria for selecting and evaluating filmstrips, slides and flat pictures. From the instructional point of view, a good picture, film, filmstrip or slide is selected

1Kinder, op. cit., p. 277-300.

for its authenticity, simplicity, relative size of items, action, good photography, artistry, and mechanical quality. A good filmstrip possesses a real sequence of pictures in logical unity as well as the foregoing criteria. Additional considerations regarding the production, content and suitability must also be included in the evaluation of these projected materials.\(^1\)

Schuller's criteria for selecting and evaluating a slide, filmstrip, or other still pictures were:

- Does it contribute to a recognized goal of the intended users?
- Is it authentic and accurate?
- Does it project well enough for effective use in the groups for which it is intended?
- Is it accompanied by accurate descriptive, or identifying titles or captions?\(^2\)

Wittich reported that research evidence has concluded that filmstrips and slides are effective means of communicating factual information and certain skills. The extent to which filmstrips or slides embody unique pictorial content of good quality has had a direct bearing on their effectiveness in teaching.\(^3\)

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\(^1\)Kinder, *op. cit.*, pp. 61-62, 113.

\(^2\)Schuller, *loc. cit.*

\(^3\)Wittich and Schuller, *op. cit.*, p. 324.
Criteria for selecting and evaluating field trips.

Brown has reported the following criteria for selecting a proposed field trip:

Does the trip fit naturally into the work students are doing in the classroom?

Can it be completed in the allotted time?

Does it have enough value to justify taking considerable class and teacher time?

Will it provide important observational experience which is unobtainable in other ways?

Is the trip suitable to the grade level, and one which will arouse the students' interest?

Is it a representative location with general applications?¹

Criteria for evaluating every audio-visual material.

Eight specific questions have been set down to offer a basic standard for realistic evaluation of every audio-visual material:

Do the materials give a true picture of the ideas they present?

Do they contribute meaningful content to the topic under study?

Is the material appropriate for the age, intelligence, and experience of the learners?

Is the physical condition of the materials satisfactory?

Is there a teacher's guide available to provide help in the effective use of the materials?

Do they make students better thinkers, critical-minded?

Do they tend to improve human relations?

Is the material worth the time, expense, and effort involved?

III. PLANNING FOR AN EFFECTIVE PROGRAM OF AUDIO-VISUAL AIDS FOR TEACHING READING

The New Castle Plan. "The New Castle Plan" for improving beginning reading forty to fifty per cent has been tested and offered as a challenge to American Education.

In McCracken's book, "The Right to Learn," he has demonstrated the increased results of teaching reading with filmstrips. The children's initial reading instruction was presented on the screen for forty-five minutes during mornings with the whole group participating with interest. There was no grouping for initial instruction. Those who had not mastered the vocabulary were helped in the thirty minute afternoon reading instruction groups, when the accompanying Laidlaw textbooks were studied.

McCracken stated that the erroneous grouping procedures stressed by reading specialists has been the cause of the lack of proper audio-visual techniques. Most of the

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1Dale, op. cit., p. 83.
audio-visual materials now do not accompany textbooks and are designed only to broaden the child's concept of the world around him. Because the producers of audio-visual materials have had little or no demand for films that can help teach vocabulary, comprehension and reading speed, there are now few such materials available.¹

The Film-Reader Program. Three sets of film readers have recently been published. The set designed for fourth and fifth grades is published by Row, Peterson and Company and is correlated with films from Encyclopaedia Britannica's "Children of Many Lands" film series. These readers were prepared under the direction of Mabel O'Donnell and Elizabeth Bloss. The titles in the fourth and fifth grade set are: "English Children," "Spanish Children," "Children of China," "Children of Japan," "Norwegian Children," and "French Children."

Key words are repeated throughout each story, and pronunciation guides are included on the pages where unfamiliar words are first introduced. The back of each book contains a glossary of selected new terms in the text, and also a picture map of the country with which the book deals. Each book contains thirty-six pages... All of the readers can stand alone and serve as self-contained supplementary readers, as well as perform their special function as film readers...²


The coordinated use of selected educational motion pictures and their correlated film readers has provided a common denominator of experience and has helped associate for that experience, has provided the word and sound symbols for effective association, has held the children's interest throughout the entire procedure and motivated them to do more reading, and has broadened the children's understanding of the natural world and their social environment through an experience of interest to them and within the range of their comprehension.

Increased meanings and more enjoyable reading are also stimulated by the film-reader technique. Serious consideration and wider utilization of this method is recommended because of its additional values of stimulating and maintaining pupil interest for improving reading instruction.

**Cross-media approach.** The cross-media approach to instruction is a means of coordinating many avenues of audio-visual experience so that sought-after goals can be clearly comprehended and eventually achieved. The case study presented by Wittich showed how filmstrips, films, slides, and various other audio-visual materials were used in the social studies unit, "Hawaii, the Fiftieth State," in which reading proceeded at a gratifying rate. Teacher's
initial leadership was replaced to a large degree by the pupils' participation in terms of their own interests as they searched for information, read, and reported to the class.1

IV. SUMMARY

Research findings for use in arriving at a workable and effective program of audio-visual aids for supplementing reading instruction have been presented in this chapter.

Three objectives of an effective reading program and supporting audio-visual research findings for achieving this goal have been considered below.

Development of reading skills. For the development of reading skills, the use of the tape recorder, phonograph, and various films were recommended for teaching reading skills. In the "New Castle Plan" filmstrips were initially used to more effectively teach reading skills. The film-reader program was highly recommended for teaching skills more effectively. The prime function of audio-visual materials has been to help the child build up his storehouse of meanings. Audio-visual materials are known to communicate or prevent misunderstandings better than words alone.

Development of reading interests. Film and filmstrip usage for the development of increased reading interests were stressed. Television teaching has motivated and created more interest. Interest was also aroused by opaque projector's usages.

Provision for reading enrichment and correlation. The film readers, maps, charts, and diagrams provided valuable enrichment and correlation. All audio-visual materials were defended as valuable enrichment, providing perceptual foundations where actual experience is lacking and enabling verbal instructions to transmute these into conceptual products through the processes of interpretations, integration and generalization, with success dependent on the instructor's utilization of the materials.
CHAPTER III

BUILDING THE PROGRAM

This study was conducted during the 1961-1962 school-year with the fourth grade class at East Bremerton Elementary School, Bremerton, Washington, as the subject of the study.

I. THE PROBLEM

Statement of the problem. The problem in this study was (1) to determine the criteria for selecting and evaluating audio-visual aids to be used at the fourth grade level; (2) to determine how reading could be taught to fourth graders making effective use of audio-visual aids as supplementary materials; and (3) to arrive at a workable, effective program of audio-visual aids for teaching reading at the fourth grade level.

Objectives of the program. The objectives of the program to be developed were: (1) to develop the student's reading skills and abilities necessary to perform duties of a worthy citizen, considering that a greater competency is needed as the complexities of modern living increase. By the fourth grade, emphasis in reading has shifted from "learning to read" to "reading to learn." Word recognition
skills required less emphasis than before, but some practice in the use of the dictionary and in attacking polysyllabic words was needed. The development of reading vocabulary, both of a general literary kind and of the special vocabularies of the content subjects, was an important problem.¹

(2) to develop individual interests, aptitudes, and abilities so that all students may become "all that they are capable of becoming." Pupil's interests should be so developed that they may lead to helping the pupil achieve a satisfying, worthwhile life.²

(3) to use audio-visual aids to enrich, to correlate, to advance learning activities, and thereby, to improve the quality of learning--a goal toward which all instructional workers direct their efforts.

Modern learning theories have stressed the importance of need-centered learning activities in which textbooks, films, recordings, and all other materials and resources are selected and used so as to enable the learner to deal more effectively with his problem, need, and interest.³


II. PROCEDURES

This section describes procedures used by the writer in building the reading program and investigating evidences of growth from its use. Materials were selected in the light of criteria presented previously.

Procedures for teaching skills. Audio-visual procedures used for teaching reading skills included listening exercises with the tape recorder. Oral reading skills were self-evaluated and discussed. Speech improvement, oral interpretation, and comprehension skills were improved by the various tape-recorded activities, which included book reports and other research.

Word analysis skills were taught and reviewed by the use of these selected filmstrips:

FS 2613 Hearing Sounds in Words
FS 2614 Consonant Sounds
FS 2615 Tricky Consonant Sounds
FS 2616 Long Vowel Sounds
FS 2617 Letters Which Work Together
FS 2618 Studying Longer Words

Vocabulary skills were taught by electric board programs. The development of special vocabulary skills in related subjects was provided for in radio and televised instruction.

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1Teaching Tools for Kitsap Schools; A Manual for Teachers (Bremerton, Washington: Kitsap County Bureau of Teaching Materials), (Mimeoographed).
Comprehension skills were also taught by the use of radio, television, and basic reading filmstrips listed below:¹

FS 1359 Singing Wheels Part I
FS 1360 Singing Wheels Part II

Reference skills were taught by the use of these films:²

F 158 Know Your Library
F 159 We Discover the Dictionary
F 190 Maps Are Fun
FL 30 Alphabet Conspiracy.

Procedures for arousing interest. Motivation and participation questions in audio-visual presentations were among the procedures used for arousing interest. Interest was also aroused and maintained by the teacher-pupil planning of radio and televised instruction throughout the schoolyear. Individual interests were highlighted by tape-recorded presentations of reading dramatizations.

Opaque projector displays of charts, maps, current event clippings, and student's reading workbook exercises helped to motivate the children's interests and increase efforts.

¹Ibid.
²Ibid.
Reading lessons were reviewed by electric board programming. Individual mimeographed drill sheets, similarly patterned, allowed each child to check his accuracy by electric board comparisons. Academically talented students assisted by preparing model lessons from textbook lessons for classroom use.

A field trip to Fort Nisqually, Tacoma, Washington, added interest to the reading lessons in the basic reading textbook, *Singing Wheels*.1 Pictures, photographs, souvenirs, slides, and the guide's historical map discussion of the pioneers' adventures enroute to Fort Nisqually motivated the children to do additional reading in reference books.

**Procedures for enrichment and correlation.** A variety of procedures were used for reading enrichment and correlation with the various other school subjects in the total school curriculum. *Educational Television, Channel 9, KCTS-TV,* Seattle, Washington, provided a teacher's guide for classroom viewing. Teacher-pupil planning procedures provided the basis for integrating televised instruction which would complement the fourth grade reading curriculum. The long-range series, *TV Science III and IV*, consisted of two fifteen minute lessons per week (fifty-two lessons

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during the school year). Eight units of study were included in the long-range series: School Environment in the Fall, Air Unit, Magnetism and Electricity Unit, Simple Machines Unit, Our Earth Unit, Outer Space Unit, Sound Unit, and Spring and Summer Unit. Planning for each unit included setting up the library book display for each consecutive unit, as recommended in the teacher's guide.¹ Each child designed television science folders, made a table of contents listing the units, and inserted follow-up notes of each telecast during the school year. These notes were used for reference reading, to expand vocabulary, to improve spelling ability, and to develop other skills and scientific understandings. Some students made illustrations with the notes and they were frequently shown with the opaque projector for enriching group instruction.

Televised Spanish instruction, Rosita y Panchito, consisted of two fifteen minute lessons per week (thirty-six lessons in the series) and offered enrichment for the social studies and reading textbook activities.² Several telecasts were tape-recorded for additional drill and future use.


²Ibid.
Spanish dictionaries, records and books were shared by various members of the class. The following filmstrips aided in clarifying understandings, in developing appreciations, and in broadening concepts:¹

FS 419 Spanish in the Classroom
FS 420 Spanish with the Family
FS 421 Carlos' Birthday Party
FS 636 Mexico, Southern Neighbor
FS 1862 Mexico

Televised French instruction, Parlons Francois, consisted of two fifteen minute lessons per week (a total of sixty lessons).² These educational telecasts correlated with units in reading and social studies textbooks. Several children shared their parents' French materials and a few of the telecasts were tape-recorded. The film, F 219 French Children, was also used for additional enrichment.³

The series of Standard School Broadcasts, 1961-1962, "Music--Passport to the World," provided twenty-six one-half hour programs devoted to music in relation to literature, geography, history, legends, art and everyday life of


³Teaching Tools for Kitsap Schools, loc. cit.
various cities, countries, and other regions.¹

The necessary considerations were given to radio-timing, preparation, reception, and follow-up activities which correlated with other curricular activities. Presenting information about the broadcast, assembling of supplementary materials which would make the broadcasts more meaningful, and listing of specific key questions, names of places, people and concepts were included in the preparatory steps. Note-taking was planned during the broadcast. Pupil-teacher planning of written records of the weekly broadcasts, creative illustrations, and research activities in the World Almanac, atlases, encyclopedias, special dictionaries, exhibits and charts provided additional opportunities for enrichment. Selected special-interest broadcasts and student reports were tape-recorded for later reference. Individual charts, maps, and pictures were presented to the class with the opaque projector for group study. The students also presented related artifacts in their audio-visual reports.

In accordance with research recommendations that the total reading program should integrate important out-of-

school activities, teacher-pupil planning included the sharing of current event clippings from newspapers and magazines on four topics which correlated closely with the fourth grade curriculum, namely weather, space, Seattle World's Fair, and civil defense. After class presentation and bulletin board usage, these clippings were pasted in the four selected scrapbooks for reference reading. Pupil chairmen chose helpers to keep these activities up-to-date.

The series of slides, SL 18 Seattle World's Fair, was presented with the student's tape-recorded explanations to their parents on May 29, 1962, along with demonstrations of other audio-visual "specials" included in the regular classroom activities during the year. The parents were able to participate in the final science, conversational Spanish, and conversational French telecasts and share the various follow-up activities to more fully understand the effects of the various audio-visual methods and materials used during the schoolyear.

III. STEPS TAKEN TO APPRAISE THE PROCEDURES USED

Steps taken to appraise the procedures used for


2 Teaching Tools for Kitsap Schools, loc. cit.
teaching reading skills. Various steps were taken to investigate the effectiveness of the procedures used in teaching reading skills. In order to gather objective data concerning the reading growth of students, the decision was made to use the Stanford Achievement Tests, on which there were previous test scores taken the year before. To establish this data, the student's average vocabulary and comprehension grade placement scores in May, 1962 were compared with those grades on tests taken in May, 1961. Reading grade placement scores, net gains, and percentile norms for the fourth grade schoolyear were recorded and used for later analysis in this study.

The writer noted increased efforts toward higher standards in daily reading lessons, more widespread usage of the dictionary, and eagerness to improve the various reading skills when the various filmstrips were presented. Increased learning of factual information and better retention of the material learned supported research findings.¹

Steps taken to appraise the procedures used for arousing interest. The audio-visual questionnaire distributed to parents to appraise parent-child interest was one of the steps taken to evaluate the procedures used for arousing

interest. To supplement the results of the questionnaire findings, student attendance records of two other fourth grade groups were compared with the fourth grade study group to see if increased interest might have reflected in better attendance.

Steps taken to appraise the procedures used for enrichment and correlation. Investigation of library records was one of the steps taken to investigate effects of the procedures used for enrichment and correlation. An average of forty books were circulated each week by the fourth grade study group. Widespread circulation of books containing information related to the current telecasts and radio broadcasts was noted. Book reports contributed by individual members ranged from a total of ten to fifty-three books.

Audio-visual questionnaire and achievement records supplemented daily observations in evaluating these procedures.²

1 Appendix.

CHAPTER IV

PRESENTATION OF THE DATA

In this chapter the data which were accumulated throughout this study is presented. This concerned the methods of using audio-visual aids and the criteria for selecting, evaluating and applying them to provide a workable, effective program of audio-visual aids for teaching reading to a fourth grade group of students at East Bremerton School, Bremerton, Washington, who had not been selected in any particular way.

Objective data obtained from the Stanford Achievement Tests are presented in tables showing individual reading grade placement scores for the high, average and low intelligence students. The high, average, and low group's mean grade placement and mean net gain in reading were obtained from the cumulative reading records of May, 1961, and May, 1962. The corresponding percentile ranks are shown for comparisons with national norms.

Subjective data collected from the audio-visual questionnaires to parents are presented, showing parent-child reactions and appraisal of the various audio-visual media used. Teacher observations are reported and attendance records are compared with two other fourth grade classes.
The data have been gathered in an attempt to measure to some extent the degree of success of the reading program, utilizing audio-visual media, as shown by student interest and achievement.

I. READING ACHIEVEMENT RECORDS

Division into three intelligence groups. The seventeen students in the fourth grade class of the East Bremerton Elementary School, Bremerton, Washington, during the 1961-1962 school year were divided into groups according to their intelligence quotients. Students with intelligence above one hundred ten were placed in the "high" group. Students with intelligence quotients between ninety and one hundred ten were placed in the "average" intelligence groups, and students with intelligence quotients below ninety were placed in the "low" intelligence groups.

Pupils' reading grade placement scores on Stanford Achievement Tests given in May, 1961, and May, 1962, were recorded with the corresponding percentile norms. The percentile norm which corresponded to the grade score showed the percentage of pupils of the given grade status having scores less than the given score. These percentile norms were compared to analyze whether the individual pupils and/or the groups had attained a status which was superior, inferior or about equal to that typical of other similar
ability pupils of similar grade status.

Comparative reading achievement data for high intelligence student group. In the Stanford Achievement Tests, the high intelligence group's 1961 mean grade placement score was 6.3. Their mean percentile was above 91 per cent. Their 1962 mean grade placement score was 7.4 per cent. Their 1962 mean percentile was above 89 per cent. Their mean intelligence quotient was 116. Their mean reading gain was 1.1. These data are presented in Table II.

### TABLE II

GRADE SCORES, PERCENTILES, AND READING GAINS MADE BY FOURTH GRADE HIGH INTELLIGENCE STUDENTS ON STANFORD ACHIEVEMENT TESTS, FORMS J & K; BREMERTON, WASHINGTON, 1961-1962

<table>
<thead>
<tr>
<th>Student's Intelligence Quotient</th>
<th>Grade Placement Score 1961</th>
<th>Grade Placement Score 1962</th>
<th>Grade Placement Percentile 1961</th>
<th>Grade Placement Percentile 1962</th>
<th>Reading Gain</th>
</tr>
</thead>
<tbody>
<tr>
<td>116</td>
<td>8.0*</td>
<td>9.1*</td>
<td>98</td>
<td>88</td>
<td>1.1*</td>
</tr>
<tr>
<td>116</td>
<td>5.0</td>
<td>6.5</td>
<td>80</td>
<td>80</td>
<td>1.5</td>
</tr>
<tr>
<td>116</td>
<td>6.1</td>
<td>6.7</td>
<td>95</td>
<td>90</td>
<td>.6</td>
</tr>
</tbody>
</table>

Mean 116 6.3 91 7.4 89 1.1*

*Extrapolated

Comparative reading achievement data for average intelligence student group. In the Stanford Achievement Tests,
the average intelligence group's 1961 mean grade placement score was 4.1. Their 1961 mean percentile was 54 per cent. Their 1962 mean grade placement score was 5.3. Their 1962 mean percentile was 60 per cent. Their mean reading gain was 1.2. These data are presented in Table III.

TABLE III
GRADE SCORES, PERCENTILES, AND READING GAINS MADE BY FOURTH GRADE AVERAGE INTELLIGENCE STUDENTS ON STANFORD ACHIEVEMENT TESTS, FORMS J & K; BREMERTON, WASHINGTON, 1961-1962

<table>
<thead>
<tr>
<th>Student's Intelligence Quotient</th>
<th>Grade Placement Quotient 1961</th>
<th>Percentile 1961</th>
<th>Grade Placement Quotient 1962</th>
<th>Percentile 1962</th>
<th>Gain 1962</th>
</tr>
</thead>
<tbody>
<tr>
<td>105</td>
<td>4.1</td>
<td>60</td>
<td>5.5</td>
<td>70</td>
<td>1.1</td>
</tr>
<tr>
<td>99</td>
<td>4.2</td>
<td>60</td>
<td>5.9</td>
<td>77</td>
<td>1.7</td>
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<tr>
<td>98</td>
<td>6.2</td>
<td>95</td>
<td>7.6</td>
<td>95</td>
<td>1.4</td>
</tr>
<tr>
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<td>80</td>
<td>6.5</td>
<td>85</td>
<td>1.5</td>
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<tr>
<td>96</td>
<td>4.3</td>
<td>65</td>
<td>5.5</td>
<td>70</td>
<td>1.2</td>
</tr>
<tr>
<td>94</td>
<td>3.7</td>
<td>45</td>
<td>4.6</td>
<td>45</td>
<td>.9</td>
</tr>
<tr>
<td>91</td>
<td>4.3</td>
<td>65</td>
<td>5.0</td>
<td>55</td>
<td>.7</td>
</tr>
<tr>
<td>91</td>
<td>3.1</td>
<td>25</td>
<td>4.4</td>
<td>40</td>
<td>1.3</td>
</tr>
<tr>
<td>91</td>
<td>3.3</td>
<td>30</td>
<td>4.0</td>
<td>25</td>
<td>.7</td>
</tr>
<tr>
<td>90</td>
<td>2.7</td>
<td>15</td>
<td>4.4</td>
<td>40</td>
<td>1.5</td>
</tr>
<tr>
<td>Mean</td>
<td>95</td>
<td>4.1</td>
<td>54</td>
<td>5.3</td>
<td>1.2</td>
</tr>
</tbody>
</table>

Comparative reading achievement data for low intelligence student group. In the Stanford Achievement Tests, the low intelligence group's 1961 mean reading grade placement score was 3.5. Their 1961 mean percentile was 38
per cent. Their 1962 mean reading grade placement score was 4.57. Their 1962 mean percentile was 44 per cent. Their intelligence quotient was 84. Their mean reading gain was 1.07. These data are presented in Table IV.

TABLE IV
GRADE SCORES, PERCENTILES, AND READING GAINS MADE BY FOURTH GRADE LOW INTELLIGENCE STUDENTS ON STANFORD ACHIEVEMENT TESTS, FORMS J & K; BREMERTON, WASHINGTON, 1961-1962

<table>
<thead>
<tr>
<th>Student's Intelligence Quotient</th>
<th>Grade Placement 1961</th>
<th>Grade Percentile Placement 1961</th>
<th>Grade Placement 1962</th>
<th>Grade Percentile Placement 1962</th>
<th>Grade Gain 1962</th>
</tr>
</thead>
<tbody>
<tr>
<td>88</td>
<td>2.9</td>
<td>20</td>
<td>4.9</td>
<td>52</td>
<td>2.0</td>
</tr>
<tr>
<td>87</td>
<td>3.7</td>
<td>45</td>
<td>5.0</td>
<td>55</td>
<td>1.3</td>
</tr>
<tr>
<td>82</td>
<td>3.3</td>
<td>30</td>
<td>3.6</td>
<td>18</td>
<td>.3</td>
</tr>
<tr>
<td>79</td>
<td>4.1</td>
<td>57</td>
<td>4.8</td>
<td>50</td>
<td>.7</td>
</tr>
<tr>
<td>Mean</td>
<td>84</td>
<td>3.5</td>
<td>4.57</td>
<td>44</td>
<td>1.07</td>
</tr>
</tbody>
</table>

Final comparative data on reading achievement tests.
The final comparative reading achievement data are presented in Table V. These concluding data showed the composite mean grade placements, mean percentiles, and mean gains for the three intelligence groups. In 1962, their mean grade score was 5.7 and their corresponding mean percentile was 64 per cent. Their mean reading gain was 1.12. This entire fourth grade group's mean intelligence quotient was in the average
range, 98, and their mean reading achievement gain and their mean percentile was higher than average.

Therefore, this final analysis indicates that application of audio-visual aids may have contributed to an effective fourth grade reading curriculum during the 1961-1962 school year.

This final comparative data is presented in Table V.

TABLE V

FINAL COMPARATIVE ANALYSIS OF READING ACHIEVEMENT DATA, FOURTH GRADE STANFORD ACHIEVEMENT TEST FORMS J AND K, BREMERTON, WASHINGTON 1961-1962

<table>
<thead>
<tr>
<th>Mean Intelligence Quotient</th>
<th>Mean Grade Gain</th>
<th>Mean Grade Placement</th>
<th>Mean Percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Group 116</td>
<td>1.1</td>
<td>7.4</td>
<td>89</td>
</tr>
<tr>
<td>Average Group 95</td>
<td>1.2</td>
<td>5.3</td>
<td>60</td>
</tr>
<tr>
<td>Low Group 85</td>
<td>1.07</td>
<td>4.57</td>
<td>44</td>
</tr>
<tr>
<td>Mean 98</td>
<td>1.12</td>
<td>5.7</td>
<td>64</td>
</tr>
</tbody>
</table>

II. EVALUATION OF INVESTIGATOR'S RESEARCH

QUESTIONNAIRE TO PARENTS

The investigator's audio-visual questionnaire was  

1 Appendix
distributed to parents of the entire thirty-one students in the fourth grade in May, 1962. One hundred per cent returns were obtained from the parents and were useful in forming more accurate conclusions regarding the student's reactions. Thirty-one parents favored the use of these audio-visual methods and materials.

1. Thirty-one parents believed that these audio-visual experiences had improved education.

2. Thirty-one parents believed that these audio-visual experiences had added interest and enthusiasm.

3. Sixteen parents believed that these audio-visual experiences had tended to help their children want to go to school. Six parents said their children had always been eager to attend school. They attributed eagerness to other factors rather than the utilization of up-to-date audio-visual methods and materials. The remaining nine parents were undecided so they left this statement unanswered.

Examination of the parents' comments and numerical rankings indicated that they believed individual differences among students were more adequately provided for and satisfied through the broader opportunities afforded when these various mass media devices were used.

The number of favorable comments made by parents
regarding the seven types of audio-visual aids. Educational Television, Channel 2, received the largest number of favorable comments. Suggestions and opinions were contributed concerning each of the seven audio-visual classifications in audio-visual questionnaires. All of the classifications received some favorable answers. Some parents did not make written comments. There were no criticisms of any of the media. The numbers listed after the seven types of audio-visual aids given in Table VI indicate the number of favorable comments which parents made regarding each of the types of audio-visual aids used in this study.

**TABLE VI**

THE NUMBER OF FAVORABLE COMMENTS MADE BY PARENTS REGARDING SEVEN AUDIO-VISUAL AIDS, FOURTH GRADE GROUP, BREMERTON, WASHINGTON, 1961-1962

<table>
<thead>
<tr>
<th>Type of Audio-Visual Aid</th>
<th>Favorable Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Educational Television (Science, Spanish, French)</td>
<td>19</td>
</tr>
<tr>
<td>2. Use of newspaper clippings for space, weather, civil defense, and World's Fair scrapbooks.</td>
<td>9</td>
</tr>
<tr>
<td>3. Tape-recorded projects.</td>
<td>8</td>
</tr>
<tr>
<td>4. Standard School Broadcasts.</td>
<td>6</td>
</tr>
<tr>
<td>5. Films, Filmstrips and Slides.</td>
<td>5</td>
</tr>
<tr>
<td>6. Electric Board Programing</td>
<td>5</td>
</tr>
<tr>
<td>7. Use of Opaque Projector, Charts and Maps.</td>
<td>2</td>
</tr>
</tbody>
</table>
Presentation of individual parents' audio-visual questionnaire comments. Parents' comments on the audio-visual questionnaire, regarding the separate audio-visual devices used, were compiled and are presented:

1. Educational Television, Channel 2, (Science, conversational Spanish, and conversational French telecasts). Nineteen parents commented regarding their child's experiences with Educational Television, Channel 2, programing:

Watching educational television at school has improved interest in listening at home, has given a better understanding, and has helped the children explain more in detail the knowledge they have gained in school.

I suggest that television programs for pupils' education should occur every day as subjects for each grade, not just once or twice a week for fifteen minutes.

My daughter said she learned most watching television. It taught science in detail. Her understanding of that subject is vastly improved.

Jimmy thought the telecasts were very interesting and helped him with his study.

During spring vacation, he wanted to watch the programs at home.

As a whole, I feel it has helped tremendously.

He seems more interested in world affairs now.

My daughter has learned a lot about science by watching educational television.

My daughter has especially enjoyed the Spanish.

He was very excited about the television when we got here.
A grade in foreign languages would increase the importance of the subject.

Learning languages other than our own is important.

I believe the younger foreign languages are started, the easier the languages are learned.

I think Spanish is of great value because of the many Spanish-speaking people that we have in this country.

Joe enjoyed the televised subjects very much.

My boy seemed to prefer French.

If more time were given to foreign languages, grading would be fine.

It’s a good idea to start them in foreign languages.

This learning is like money in the pocket—always handy.

2. Standard School Broadcasts. Six parents commented on their child’s experiences regarding Standard School Broadcasts:

She liked what they presented about other countries.

My daughter claimed that she learned a lot from the radio broadcasts, especially about past and current events.

This was very well liked by Sharon.

John has mentioned this often.

My daughter enjoyed these very much and told about them at home.

Children want to see as well as hear, though.

3. Electric board programming. Five parents commented regarding their child’s experiences with the electric board programming:
This has helped to develop an interest in electricity and what it can do.

Jimmy enjoyed it very much.

She was very enthusiastic about it.

My daughter said this is very helpful to her.

She said she learned more on the historical adventures of Lewis and Clark on one of the electric board programs.

4. Films, filmstrips, and slides. Six parents commented regarding their child's experiences with the use of films, filmstrips, and slides:

Jimmy enjoyed the films most.

She preferred filmstrips.

She enjoyed all of these a great deal.

These were very interesting and enjoyable ways to learn.

My daughter learned more about how sugar is made, learned more about the importance of Puget Sound, Lewis and Clark . . .

He really enjoyed the films and has talked about them lots.

5. Use of the opaque projector, charts, and maps.

Two parents commented regarding their child's experiences with the use of the opaque projector, charts, and maps:

This novel presentation was interesting and enjoyable.

This usage was a big step in understanding many things—other nation's industries, costumes, livelihoods . . .
6. Use of newspaper clippings for space, weather, civil defense, and Seattle World's Fair scrapbooks. Nine parents commented regarding their child's experiences with the use of newspaper and magazine clippings for space, weather, civil defense, and Seattle World's Fair scrapbooks:

These activities were very interesting. Children of this age are quite interested in current events, weather forecasts, and world affairs.

He has been very much interested in the news coverage of the space program.

These activities were very interesting.

Diane liked to read the papers to see what subjects she could find on these topics.

This was very wise planning. Children knew what was happening in the world.

She has clippings that she cut out and put on her own bulletin board at home, too.

John has developed an awareness for such things now.

These activities aroused interest in the Space Age and increased enthusiasm toward attending the World's Fair in Seattle.

7. Tape recorded projects. Eight parents commented regarding the use of tape recorder:

The tape recorder has helped Craig improve his speech more than anything else.

These research projects were very interesting.

Patrick has learned to do research work on his own because of his interest in the tape-recorded presentations.
She really liked the tape recordings.

Rick didn't like to make mistakes on the tape recorder.

My daughter said this had been a real help in improving mistakes in reading. The research projects were very educational and enjoyable.

The tape-recorded presentations were interesting when accompanied by slides and filmstrips.

He was especially interested in hearing his own voice on the tape recorder.

**Final comments regarding the various audio-visual methods and materials.** Thirteen parents added these final comments regarding parent-child reactions to the usage of audio-visual methods and materials included in the audio-visual questionnaire.

I believe all seven media have been a wonderful experience in learning for my daughter. She has enjoyed them all immensely. She has praised her teacher's methods of teaching many times this year. School has been so interesting this year that she has not wanted to miss a day of school and has a perfect attendance record.

John has enjoyed school this year and it seems to me that he has grown greatly in his comprehension and awareness! Maybe the use of these various things has helped him to like school—no doubt the skill and enthusiasm with which they were used, helped to stimulate his interest. However, I believe a wise and loving teacher is what really made John like school.

I personally feel that these audio-visual aids are very helpful. It's a proven fact that an individual will retain a great deal more that he sees and does than what he hears.

Patrick doesn't seem to need the prodding he used to to get work done. He is able to carry things through
by himself. He takes an interest in doing little extra things for projects. It seems to have been his best school year so far.

I think they all help—most for increased interest!

Because we moved here in the middle of the school year, I do not feel I know enough about all of these things. I do feel my boy has progressed farther this semester than he has ever done before in a whole year. . .

I didn't realize so many different things were used in the schools here. I hope you keep it up!

All of these things have a place in school.

I feel sure that any of these things would be a great asset to the teaching-learning process.

They create interest and each day holds something different— they're fun to look forward to.

As far as these things tending to make him want to go to school, it's hard to say because he's always been enthusiastic towards school.

We both feel all of these things have helped at home, too.

In my words, I envy the education today's children are getting. It is so much broader than our 3 R's.

These parents' comments indicated a very favorable endorsement of the audio-visual activities and indicated that many of the students talked about the audio-visual experiences they'd had at school. This showed they were highly interested and the effect was a lasting one.

Parents' evaluation of four long range audio-visual projects. The thirty-one fourth grade students' parents compared the order of importance and greatest values of the
three long range telecasts and the Standard School
broadcasts in May, 1962, as shown in Table VII. Televised
science received the highest percentage of high ratings, 1
being the highest rating.

TABLE VII
PARENT'S EVALUATION OF FOUR LONG RANGE
AUDIO-VISUAL PROJECTS, FOURTH GRADE
GROUP, BREMERTON, WASHINGTON

<table>
<thead>
<tr>
<th>Long Range Programs</th>
<th>Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1  2</td>
</tr>
<tr>
<td></td>
<td>3  4</td>
</tr>
<tr>
<td>TV Science</td>
<td>22 8</td>
</tr>
<tr>
<td>KOMO Radio</td>
<td>7 16</td>
</tr>
<tr>
<td>TV Conversational Spanish</td>
<td>2 3  20</td>
</tr>
<tr>
<td>TV Conversational French</td>
<td>0  4</td>
</tr>
</tbody>
</table>

Total 31 31 31 31

III. TEACHER OBSERVATIONS

During the school year, the writer noticed improve-
ments in self-discipline and improved attitudes toward
reading, especially among the slow readers. The library was
a joy to them. All of the children showed confidence in
themselves and eagerness to strive for higher standards.
Parents and co-workers commented that this fourth grade group was surely a busy, happy group and was doing so many interesting activities.

Their music teacher praised their behavior and efforts by naming them her "Honor Fourth Grade."

The substitute teachers commented that they were a lovely group to work with and stated that they really enjoyed their teaching experiences with them.

One day a substitute teacher in an adjoining fourth grade jovially remarked, "Why don't you get sick so I'd get a chance to work with your busy, interesting group?" (She had been much concerned about the discipline problems in the adjoining fourth grade that day).

Near the end of the school year, another fourth grade challenged the study group to compete in a "Spell Down." The ten best spellers from each group were selected. The other group were "spelled down" when three of the study group spellers remained standing. Words chosen from the sixth grade Durrell-Sullivan Achievement Test list were used to determine the final study group winner. ¹

Some of the students volunteered comments which indicated greater interest in reading and in school as a

My folks are so proud of my reading now.

Mrs. Fellows (the special reading teacher) said my last test scores showed I'd advanced two whole grades in reading skills this year.

I learned so much in fourth grade this year.

You let us do so many interesting things.

School work is so exciting this year.

You are our favorite teacher. We wish you'd teach us next year.

The various observations concurred with the writer's belief that audio-visual methods in teaching reading may have contributed toward the improved student interests, favorable classroom behavior, better attendance, and improved reading achievements.

IV. ATTENDANCE RECORDS

Attendance comparisons. The investigator made an attendance comparison between the fourth grade study group and two additional fourth grade groups of East Bremerton Elementary School, Bremerton, Washington.

Forty-four students attended the investigator's group and student absentees totaled 176 days for the year.

Forty-two students attended the second comparative group and student absentees totaled 240 days for the year.

Forty-one students attended the third comparative
group and student absentees totaled 256.5 days for the year.

These data, presented in Table VIII, showed one percent fewer absences for the study group during the year.

**TABLE VIII**

**ATTENDANCE COMPARISONS OF FOURTH GRADE GROUPS, EAST BREMERTON ELEMENTARY SCHOOL, BREMERTON, WASHINGTON, 1961-1962**

<table>
<thead>
<tr>
<th>Study group</th>
<th>Second Group</th>
<th>Third Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>5146 days</td>
<td>5627.5 days</td>
<td>5761 days</td>
</tr>
<tr>
<td>-176 days absent (3%)</td>
<td>-240 days absent (4%)</td>
<td>-256.5 days absent (4%)</td>
</tr>
<tr>
<td>4970 days attended</td>
<td>5387.5 days attended</td>
<td>5504.5 days attended</td>
</tr>
<tr>
<td>.034 (3% absence)</td>
<td>.044 (4% absence)</td>
<td>.044 (4% absence)</td>
</tr>
</tbody>
</table>
CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

I. SUMMARY

This study was conducted during the 1961-1962 school year, using the fourth grade group of East Bremerton Elementary School, Bremerton, Washington, as the subject of the study.

The problem was to determine how audio-visual aids could be used and what were the criteria for determining their selection and evaluation in order to provide an effective, workable program of audio-visual aids to supplement the fourth grade reading curriculum.

Teacher-pupil planning to meet the needs more efficiently provided the basis for audio-visual enrichment. Other criteria for the selection of most effective aids to improve reading skills, interest, and appreciations included necessary orientation and correlation to units being studied.

The year's activities, characterized by the integrated use of a variety of multi-sensory aids, were justified by many evidences of growth in the pupils. Their horizons were broadened by the closer relationships they established. Through their group activities, they began to
appreciate the many opportunities provided by audio-visual materials in a democratic society.

II. CONCLUSIONS

The use of audio-visual materials and methods to supplement fourth grade reading instruction helped provide an effective program, in that individual differences and special interests were satisfied by the broader opportunities afforded when these audio-visual media were used. The broadening of the achievement span, 3.6 to 9.1 grade scores, showed that each child was being stimulated toward his maximum potential, according to his abilities.

Results of the audio-visual questionnaire, appraising parent-child interest and reaction, concurred with the writer's belief that audio-visual methods and materials had improved reading instruction, had increased interest, and had provided valuable correlations and enrichment. Related audio-visual activities in the various other subject fields also helped stimulate reading interests, as shown by library circulation records.

Attendance comparisons with other fourth grades showed slightly fewer absences proportionately for the fourth grade group under study.

Evidences of more satisfactory behavior patterns, more widespread creativity, and added amounts of student
research also showed the increasing benefits which may have resulted from audio-visual methods and materials planned throughout the school year.

III. RECOMMENDATIONS

Further exploration of the possibilities of the various audio-visual materials for improving reading instruction is recommended.

More widespread knowledge of the advantages of televised instruction and the methods for successful utilization is also recommended.

Additional classroom research for determining the most effective methods for audio-visual teaching of reading and other subjects is a further consideration.

An effective audio-visual program for teaching reading. Research has shown that a workable, effective audio-visual program for teaching reading must be based on need-centered learning activities which enable the learner to deal more effectively with his problem, need or interest.¹ Because audio-visual materials are used to advance the learning activity, they must be selected and used in terms of each specific situation rather than

according to a set pattern or formula.

Witt and others have explained that the careful study of the nature of the curriculum, the learning process, and the procedures for improving instruction offers the only sound basis for planning audio-visual instruction.¹

**Criteria.** Criteria for using audio-visual aids to improve reading instruction should be based on the varying individual student's needs for improving reading skills, for motivating interest, and for providing reading enrichment. The most effective audio-visual aids should be chosen in each particular instance.

**Methods.** The "cross media" method, the interrelated use of audio-visual materials to reinforce one another, is recommended for achieving the full measure of each student's learning potential. Responsibility is placed on the teacher for analyzing the learning needs of the pupil, for knowing about sources of audio-visual materials from which selections can be made to help satisfy learning needs, and for knowing how to use a cross-media array of materials efficiently.

Teacher-pupil planning techniques, including careful preparation, orientation and follow-up activities, are

¹Ibid.
recommended. Pupils should be provided with specific purposes for the observations involved before audio-visual materials are used.

During a presentation that uses these materials, pupils should have some guides to follow, and after the presentation, there should be discussion or summarization, which will allow pupils to understand and consolidate their thinking.¹

Audio-visual aids recommended. The following audio-visual aids, not all of which were actually used in this study, are recommended for consideration as supplementary materials for fourth grade reading instruction in the light of both the criteria for selection of materials previously presented and the experience of the writer in this investigation.


The Society for Visual Education has also produced _Phonics: A Key To Better Reading_, a series of six color filmstrips recommended for effective word analysis for third

to sixth grade children: (1) "Let's Start With Key Words,"
(2) "Make Words Work for You," (3) "Your Eyes and Ears Are
Good Helpers," (4) "Vowel Sounds Help You," (5) "Test Your-
self on Sounds," and (6) "Help Yourself Read."

What's the Word?, twelve filmstrips correlated with
the books, Reading for Meaning Series, by Paul McKee and
others, are designed to diagnose difficulties pupils may
have in identifying and recognizing words and unlocking
word meanings: (1) "Context," (2) "Consonants,"
(3) "Consonants," (4) "Vowels I," (5) "Vowels II," (6) "Dic-
tionary I," (7) "Dictionary II," (8) "Dictionary III,"
(9) "Word Meanings I," (10) "Word Meanings II,"
(11) "Suffixes," and (12) "Prefixes." Houghton Mifflin
Company, 2 Park Street, Boston 7, Massachusetts, produced
this series in 1956.

Goals in Spelling Series, six color filmstrips
produced by McGraw-Hill Textfilm Company, 330 West 42nd
Street, New York, New York, are designed to help middle
grade children master basic spelling rules and skills
through an understanding of sounds that make up words:
(1) "Hearing Sounds in Words," (2) "Consonant Sounds,"
(3) "Tricky Consonant Sounds," (4) "Long Vowel Sounds,"
(5) "Letters Which Work Together," and (6) "Studying Long
Words."

McGraw-Hill Textfilm Company has also produced six
color filmstrips, Better Study Habits Series, designed to overview and stress certain important study and learning skills: (1) "Improve Your Study Habits," (2) "Improve Your Reading," (3) "Improve Your Vocabulary," (4) "Improve Your Handwriting," (5) "Improve Your Spelling," and (6) "Improve Your Punctuation."

The film readers published by Row, Peterson and Company for fourth and fifth grades, which are correlated with films from Encyclopaedia Britannica's Children of Many Lands film series, are recommended for stimulating and maintaining pupil interest as well as for clarifying meanings and understandings. The reader and film titles are: (1) English Children, (2) Spanish Children, (3) Children of China, (4) Children of Japan, (5) Norwegian Children, and (6) French Children.¹


Audio-visual aids are recommended by the various basic reading textbook companies in the teacher's manual and teacher's edition. Ginn and Company has listed eighteen recordings and forty-eight films for enriching the fourth reader, Roads to Everywhere.²

The tachistoscope is recommended for making it possible to teach pupils to read much faster, to understand what they read much better, and to develop keener eyesight. Teacher-made and commercial programs are recommended for individualized instruction.

Maps, charts, and diagrams are recommended to effectively clarify, extend, or give meanings to reading. They may be used to help organize and summarize materials and make records of experiences. Effective group instruction with these media is achieved when they are projected with the opaque projector. Vocabulary content, exercises for


training in the reading skills, and student contributions are among the many materials that may be projected for more effective reading instruction.

Slides are recommended for enriching word meanings, and making words stand for something concrete, for building a language background, and for discussion purposes.

The tape recorder is recommended for teaching many reading skills. It has aided in word recognition, in forming new words, in attacking new words, in pronunciation and enunciation, in observing punctuation marks, in organization of facts and ideas, and in providing drill.

Educational television and radio programs are recommended for motivating interest, expounding facts, demonstrating skills, and providing many enrichment opportunities otherwise unavailable in classroom instruction. Radio and televised instruction can also be "stored" by tape recordings.

Many miscellaneous teacher-made devices, such as word-wheels, projecto-books, electric boards, slides, and tachistoscopes, are recommended to effectively provide further individualized reading programs to meet the needs of the varying reading abilities and achievement in a fourth grade group.
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Wigren, Harold E. "What is an Educational TV Program?" Educational Screen (December, 1952), 420-422, 435-436.


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E. PUBLICATIONS OF THE GOVERNMENT, LEARNED SOCIETIES, AND OTHER ORGANIZATIONS


F. UNPUBLISHED MATERIALS

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It's Fun to Read Books. Chicago: Coronet Films.

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Maps Are Fun. Chicago: Coronet Films.

Poems Are Fun. Chicago: Coronet Films.

Punctuation-Mark Your Meaning. Chicago: Coronet Films.


Spelling Is Easy. Chicago: Coronet Films.

Stories of Holland: Background for Reading. Chicago: Coronet Films.


Watch That Quotation! Chicago: Coronet Films.

We Discover the Dictionary. Chicago: Coronet Films.

AWID-VISUAL QUESTIONNAIRE

Dr. S. K. Braze, Guest Professor of Education, University of Iowa, has suggested sending
a part of our faculty to institutes regarding the audio-visual
equipment that your school has had this year so that we may make
recommendations regarding their use, and make
reports that would be of benefit to the schools.
This work is part
of the 1952-1953 school year.

Please understand your co-operation in filling
the form out promptly and returning it to me with

APPENDIX

Very sincerely yours,

...
AUDIO-VISUAL QUESTIONNAIRE

Dr. D. H. Bragg, Assistant Professor of Education, Drake University, Des Moines, Iowa, has suggested sending a questionnaire to parents regarding the audio-visual experiences your child has had this year so that we may more accurately form conclusions regarding their use, and make improvements for the coming school year. This work is part of a graduate field study.

I will greatly appreciate your co-operation in filling out this questionnaire promptly and returning it to me with your child, ________________.

Very sincerely yours,

(Mrs.) Velma Ortendahl

Sometimes children speak at home of their experiences in school with audio-visual devices.

From their comments, and/or other sources of information, and/or your first-hand observations, we would like your opinion regarding the following:

1. Educational Television, Channel 9
   a. Has upgraded education this year. Yes____ No____
   b. Has added interest and enthusiasm. Yes____ No____
   c. Has tended to help child want to go to school. Yes____ No____
   d. Other comments:________________________________________

________________________________________
2. Standard School Radio Broadcasts
   a. Has upgraded education this year. Yes___No___
   b. Has added interest and enthusiasm. Yes___No___
   c. Has tended to help child want to go to school. Yes___No___
   d. Other comments.__________________________________________
   ___________________________________________________________

3. Electric Board Programming
   a. Has upgraded education this year. Yes___No___
   b. Has added interest and enthusiasm. Yes___No___
   c. Has tended to help child want to go to school. Yes___No___
   d. Other comments.__________________________________________
   ___________________________________________________________

   a. Has upgraded education this year. Yes___No___
   b. Has added interest and enthusiasm. Yes___No___
   c. Has tended to help child want to go to school. Yes___No___
   d. Other comments.__________________________________________
   ___________________________________________________________

5. Use of opaque projector, charts and maps.
   a. Has upgraded education this year. Yes___No___
   b. Has added interest and enthusiasm. Yes___No___
   c. Has tended to help child want to go to school. Yes___No___
   a. Has upgraded education this year. Yes____ No____
   b. Has added interest and enthusiasm. Yes____ No____
   c. Has tended to help child want to go to school. Yes____ No____
   d. Other comments.__________________________________________

7. Tape-recorded projects; research projects suggested and/or assigned.
   a. Has upgraded education this year. Yes____ No____
   b. Has added interest and enthusiasm. Yes____ No____
   c. Has tended to help child want to go to school. Yes____ No____
   d. Other comments.__________________________________________

Please comment in your own words your child's reactions to the various media and offer any suggestions you may have.

Parent's Name______________________________
Date__________________
PARENTS QUESTIONNAIRE PART II

B. How would you rank these planned long-range projects in their order of importance and greatest values? (Please number 1 for the most value, 2 for next best, 3 the following rank, 4 for lesser importance.)

_______ K-O-M-O Radio Standard Hour Broadcasts on Thursdays, 10:30 to 11:00 a.m.

_______ T V Science, Grades 3, 4, and 5, fifteen minutes twice weekly.

_______ T V Conversational Spanish, 15 minutes twice weekly.

_______ T V Conversational French, 15 minutes twice weekly.

C. Would you favor inserting letter grades on report cards for foreign languages as an additional incentive and to stimulate greater successes? Yes____ No____

Comments: ____________________________________________________________

Parent's Signature

Date

Dear Parents:

Would you please try to attend school Tuesday afternoon, May 29, from 1 p.m. to 3 p.m. when we will include some of our audio-visual specials?

We will be looking for you this Tuesday.

Most sincerely yours,

& All of us in Room 11
East Bremerton School