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A Survey to Determine the Educational Value of Audio-Visual Materials Brought to School by Intermediate Grade Pupils

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A SURVEY TO DETERMINE THE EDUCATIONAL VALUE OF
AUDIO-VISUAL MATERIALS BROUGHT TO SCHOOL
BY INTERMEDIATE GRADE PUPILS

A Thesis
Presented to
the Graduate Faculty
Central Washington College of Education

In Partial Fulfillment
of the Requirements for the Degree
Master of Education

by
Frederick K. Packer
August 1960

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DEDICATED
TO
"THURSDAY"

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CHAPTER I

THE PROBLEM AND DEFINITIONS OF TERMS USED

The fact that school children bring many things to school to share with their teachers and classmates has not been recognized by audio-visual specialists as a source of instructional materials. Some of these materials could possibly have value to the instructional programs. Some teachers, however, question the value of these materials. These facts posed some questions that could possibly be answered through a survey of intermediate grade teachers.

I. THE PROBLEM

Statement of the problem. The purpose of this study was to determine teachers' opinions about (1) the relative educational value of the materials brought to school by intermediate grade pupils, (2) teachers' attitudes toward the bringing of these materials, (3) the comparative value of these materials in terms of behavioral changes in pupils, and (4) the value of using pupils as a source of audio-visual materials.

Importance of the study. Since children do bring many things to school, some evidence should be gathered to determine their value and to give teachers some direction

as to proper attitudes toward audio-visual materials brought to school by their pupils.

If it could be determined that pupils could be a valuable source for audio-visual materials, the inference would be that the source should be further investigated and utilized.

Further, any study that would point up ways of bettering learning experiences would necessarily be of value.

Limitations of the study. Gathering data for this study involved utilization of the opinions of teachers based upon their memory of the materials brought to and used in their classrooms during the teaching year of 1959-1960. An obvious limitation here was the possible forgetting of such materials and of the behavioral changes in the pupils. However, there was one advantage; if the materials and behavioral changes were significant, then teachers would more likely remember them.

A serious limitation was the possibility that the teachers in answering the questions may have been biased in that they felt they were evaluating their own teaching ability, as the value of the materials was dependent upon the degree of utilization.

II. DEFINITIONS OF TERMS USED

Audio-visual materials. For the purpose of this study, audio-visual materials were considered to be any materials of an instructional nature appealing to the senses of seeing and/or hearing and not primarily to be read.

Intermediate grade pupils. This term was designated to mean pupils in the fourth, fifth, and sixth grades of elementary school.

Level of confidence. This expression indicates the degree of probability that the results of a study will be in the same direction for repeated samplings from the same population.

Unit of study. For the purpose of this study a unit of study was considered to be any organized body of learning experiences.

CHAPTER II

REVIEW OF THE LITERATURE

The purpose of this review will be to survey the available literature to determine what constitutes audio-visual materials, to gain an indication of the attitudes of audio-visual specialists toward the utilization of pupils as possible sources of audio-visual materials, to substantiate the contention that pupils have been bringing audio-visual materials to school, and to eventually establish criteria for evaluating audio-visual materials.

I. NATURE OF AUDIO-VISUAL MATERIALS

The writer has defined audio-visual materials as any materials of an instructional nature appealing to the senses of seeing and/or hearing and not primarily to be read. Several sources were considered for audio-visual specialists' views as to what constitutes audio-visual materials.

In writing about the use of audio-visual materials in education, Edgar Dale is concerned with, ". . . materials that do not depend primarily upon reading to convey their meaning"(2:3).

In a textbook for teachers, Brown, Lewis, and Harcleroad state, "Throughout the text the term 'audio-visual instructional materials' is broadly interpreted to comprise the many substances and sounds which play important roles in learning"(1:vii).

Wittich and Schuller did not define the term other than to list examples of types of audio-visual materials(11). Weaver and Bollinger used the same method of delimiting the term(10).

II. ATTITUDES OF AUDIO-VISUAL SPECIALISTS

In a survey of over fifty writings by leading audio-visual specialists, only one mentioned pupils as a source of audio-visual materials. Brown, Lewis, and Harcleroad, in their textbook for teachers, discussed the value of student collections as aids in the instructional program. Even so, the materials recognized were limited to collections and did not mention other types of audio-visual materials.

Either audio-visual specialists are not aware of pupils as a possible source of materials, they do not recognize them as a valuable source, or they feel that the disadvantages of using this possible source outweigh the advantages.

Brown, Lewis, and Harcleroad have a positive attitude toward the use of pupils' collections in their teaching-learning activities. "When teachers know about the special collections their students have brought together, they may use them as bases for important classroom learnings"(1:392). The authors state several gains that may occur in the students:

Students receive recognition essential to social growth.

They may be stimulated to further work to improve and expand their collections and, by so doing, to gain new insights and understandings.

They may obtain considerable satisfaction from having contributed something worthwhile for their classmates and from having cooperated with them in the study of a related topic.

They may practice and improve skills in explaining and relating collections to topics and problems studied by the class(1:393-394).

The values stated above extend to various other types of audio-visual materials pupils bring to school. Also, these gains in pupils were considered in determining the criteria for evaluating audio-visual materials in terms of the behavioral changes of pupils.

III. PRACTICES IN THE FIELD

In a preliminary field study conducted by the writer, an indication was made of the types and quantity of materials

brought to school by intermediate grade pupils of nine intermediate grade classes. Although this was merely an exploratory study, it nevertheless gave some definite indications. The children brought an average of over three articles each to school during the school year. In a class of thirty pupils this would amount to approximately one hundred items brought into the classroom during one year. The author's conclusion was that children do bring a significant amount of materials to school(8).

The types of audio-visual materials reported in this study included models, objects, specimens, pictures, films, mock-ups, diaramas, audio-visual equipment, phonograph records, diagrams, charts, maps, globes, slides, and collections. The conclusion drawn in this early phase of the study was that the materials pupils brought were definitely classifiable as audio-visual(8).

IV. CRITERIA FOR EVALUATING AUDIO-VISUAL MATERIALS

Through the use of well-established principles of teaching, Edgar Dale, a leading authority in the field of audio-visual education, has set down eight specific questions to test the practical value of audio-visual materials. These questions plus the gains in pupil learning stated by Brown, Lewis, and Harclerod, formed the bases of the criteria used in this study.

In evaluating audio-visual materials, ask yourself:

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 effective use of the materials?

Do they make students better thinkers, critically minded?

Do they tend to improve human relations?

Is the material worth the time, expense, and effort involved(2:83)?

The above criteria were altered and utilized in this study to describe desirable behavioral changes in pupils. The justification for this was that the ultimate goal in education is the improvement of pupil behavior through learning. Consequently, the materials must logically be evaluated in terms of desired behaviors.

CHAPTER III

SOURCES OF DATA AND METHODS OF PROCEDURE

The purpose of this part of the report is to identify the kind of data, the number of individuals surveyed, and to describe the specific techniques and procedures involved. In addition, explanations are given as to how the survey data were compiled and arranged in tables of distribution.

I. KIND OF DATA

The materials contributed by intermediate pupils were evaluated in terms of behavioral changes in pupils shown as the result of the materials having been utilized in a particular phase of the instructional program. The criteria were applied by teachers, and their opinions were the actual data for this study.

Justification of teachers' opinions as valid data for this study was the fact that teachers' attitudes toward using any instructional aid is a determining factor in the worth of the material. Ellsworth Dent points out the significance of the teacher's background:

The audio-visual movement has long passed the initial stages and has become a potent factor in all situations. The extent which these valuable training aids are used and the degree of effectiveness

with which they will be employed in any teaching situation will depend almost entirely upon the amount and quality of training the teacher has received(3:23).

II. EXTENT OF COVERAGE

A sampling was made of seventy-three intermediate grade teachers who had taught one of the intermediate grades during the 1959-1960 school year. Thirty-six different school districts scattered throughout the state of Washington were represented by the teachers. Unrestricted random sampling was the method utilized in obtaining a representation of the school systems for this study.

The population of teachers was drawn from those attending summer school on the Central Washington College campus. The sampling was not a systematic selection of the three grade levels involved in the study, but each was adequately represented.

III. SURVEY METHODS USED

A rating scale was prepared listing the following behavioral changes as criteria for evaluating the materials contributed by intermediate grade pupils:

1. The pupils gained a greater understanding of the topic, shown by positive knowledge of and improved attitudes toward the importance of the study.

2. The pupils had an increased interest in the topic under study, shown by increased participation in on-going classroom activities.

3. The pupils think more critically, shown by their evaluation of the materials as to appropriateness and by their ability to identify inaccurate factual data.

4. The pupils showed improved human relations, shown by an appreciation and respect for the contributions, ideas, and opinions of other people.

5. The pupils showed growth in vocabulary, shown by the understanding and use of new words in discussions.

The rating scale (See Appendix B) was accompanied by an explanation of the purpose of the study, the meaning of audio-visual materials, and instructions on how to complete the rating scale, shown in Appendix A.

The writer personally distributed the forms in several of the classes on the campus of Central Washington College of Education. An oral introduction was given to the teachers in these classes, asking them to read the instructions and complete the rating scales.

Additional instruction was necessary to clarify the meaning of "unit of study." Also, the writer informed the teachers that it was not necessary to identify themselves by name if they did not so desire.

The forms were collected and the results compiled in tables according to the units of study, the grade levels, and the evaluation of the materials.

IV. ORGANIZATION OF DATA

Data from the rating scales completed by the teachers were organized into the following tables: (1) grade levels, (2) units of study, (3) frequency of responses, and (4) comparison of positive and negative responses.

The information for grade levels was obtained from the rating scales and tabulated according to frequency of teachers reporting from each of the intermediate grades, fourth, fifth, and sixth. This information is located in Table I.

The various units of study listed by the respondents were categorized according to broad subject areas such as science and social studies. This information is located in Table II.

Frequency of responses. Data for Table III were taken from the columns following the criteria on the rating scales. The number of checks in each of the columns were added and tabled. The total frequency of responses were shown for each criterion and for each column heading.

The possible responses were arbitrarily assigned numerical values in order to determine arithmetical means for each criterion. The column headed "strongly agree" was assigned the value of five. The remaining columns were given four, three, two, and one, respectively, from right to left. The remaining column headings were "agree," "no opinion," "disagree," and "strongly disagree."

The means for each criterion were calculated by multiplying the number of responses after each criterion in each column by the value attached to that column. The five products for each criterion were added and divided by seventy-three, the total responses. The quotients were the means for the criteria.

Comparison of positive and negative responses.

Data compiled under this heading are shown in Table IV. The columns headed "strongly agree" and "agree" were designated as positive, the columns headed "disagree" and "strongly disagree" termed negative. The column "no opinion" carried neither a positive nor negative sign. The responses in this column were divided evenly between the positive and negative for computational purposes.

Each criterion was calculated separately in the following manner. The positive responses plus half the "no opinion" column responses were tabulated and recorded as

were the negative responses plus one half of the no opinion responses. These figures were tabled for each criterion as to total positive and total negative responses.

Assuming the normality of the population, the sign test was applied to the results to indicate significance in either the positive or negative direction. For each criterion the positive and negative responses were compared. The number of times the less frequently occurring sign appeared was noted in each of the legitimate pairs. These figures were applied to a table for the sign test(7:453). The figure for the total number of responses was also necessary to read this table and obtain results. The results of the sign test were noted as a footnote to Table IV.

CHAPTER IV

ANALYSIS OF THE DATA

The findings of this study were determined by an analysis of the data taken from the rating scales completed by the intermediate grade teachers. Tables I and II indicated the characteristics of the population surveyed while Tables III and IV were the basis for the conclusions drawn from the study.

I. CHARACTERISTICS OF POPULATION SURVEYED

School districts. The survey forms indicated that the seventy-three teachers reporting were drawn from thirty-six different school districts throughout the state of Washington plus one district each in California and Alaska. In only two districts were there more than four teachers reporting in this study.

The results indicated that the teachers surveyed were from widely scattered areas. This would tend to support the validity on the basis of widespread practice.

Grade levels. The teachers surveyed had taught in one of the intermediate grades, four, five, or six. The distribution of teachers of these grades is indicated in Table I.

TABLE I
FREQUENCY OF GRADE LEVELS

Fourth grade	15
Fifth grade	23
Sixth grade	35

There was no particular significance to these data other than that they provided an indication that sufficient representation of each of the intermediate grades existed for interpreting other data as applicable to all three intermediate grades.

Units of study. While rating the materials the teachers were asked to consider a particular unit of study rather than all of the materials contributed during the school year. The units indicated by the teachers varied from very specific to broad subjects. All of these were classified into the subject areas shown in Table II.

TABLE II
UNITS OF STUDY

Science	40
Social Studies	22
Health	1
Mathematics	1
No indication	9

The only purpose for this phase of the study was to have the teachers concentrate on a small area in order to obtain more critical evaluations.

II. FREQUENCY OF RESPONSES TO BEHAVIORAL CHANGES

The frequency of the teachers' opinions as to the values of the materials in terms of behavioral changes of their pupils are listed in Table III. Also, the arithmetical means are listed for each criterion. For identification purposes and brevity, the criteria were titled: (1) positive knowledge, (2) pupil interest, (3) critical thinking, (4) human relations, and (5) vocabulary growth.

Positive knowledge. With the exception of two responses, the teachers either agreed or strongly agreed that pupils gained a greater understanding of the topic as shown by positive knowledge of and improved attitudes toward the importance of the study as a result of the pupils having contributed the materials and their having utilized the materials in the instructional program.

On 41 out of the 73 scales the teachers checked "agree" for their response. And, on 30 of the scales the rating was "strongly agree." The mean for "positive knowledge" was 4.38. This meant that the average of all the ratings fell between "agree" and "strongly agree."

The conclusion drawn was that the teachers reflected a high degree of positive attitude toward the value of materials in the pupils' gaining understanding of the topic under study.

Pupil interest. Again only 2 out of 73 responses were not either "strongly agree" or "agree." On this criterion the majority of total opinions, 46, strongly agreed that pupils had increased interest in the topic under study as shown by increased participation in on-going classroom activities.

The mean for this criterion was 4.60. This was the highest rating of all the behavioral changes judged.

The conclusion was that teachers strongly believe in the worth of pupil-contributed materials as motivational forces in creating interest in particular units of study.

Critical thinking. On this criterion the teachers' opinions were strongly centered in the rating of "agree," 40 out of 73. The remaining 33 ratings were divided 18, 12, and 3, respectively, among "strongly agree," "no opinion," and disagree."

The mean of 4.00 indicates positive attitudes of the teachers toward the criterion that pupils think more critically as shown by their evaluation of the materials.

as to appropriateness and by their ability to identify inaccurate factual data.

Human relations. The teachers' opinions centered on the "agree" rating as shown by the frequency of 40 out of 73 responses and the mean of 4.01. The remaining responses were divided 18, 13, and 2, respectively, among "strongly agree," "no opinion," and "disagree."

The conclusion drawn was that teachers reflected a positive attitude toward the utilization of pupil-contributed materials as a means of pupils' improving their relations with others.

Vocabulary growth. The highest number of ratings were "agree," 33, and the second highest was 26 for "strongly agree." The mean was 4.14. Twelve ratings of "no opinion" and two for "disagree" completed the results.

Although neither "strongly agree" nor "agree" received a majority, together the ratings indicated a positive attitude on the parts of teachers toward the worth of the materials in developing the vocabulary of their pupils.

III. COMPARISON OF POSITIVE AND NEGATIVE RESPONSES

The figures in Table IV were the result of the tabulation of the positive and negative responses as explained in Chapter III.

The application of the sign test in each instance registered significant results in the positive direction at the .01 level of confidence. This meant that for every criterion the probability is that 99 out of every 100 ratings by intermediate grade teachers would be "true" rather than "chance" results.

The frequency of positive ratings for each criterion greatly outnumbered the negative ratings. These results were sufficiently significant to justify the adequacy of the size of the sampling.

For each of the criteria, then, the teachers reflected a positive attitude toward the value of the materials.

TABLE III
 FREQUENCY OF RESPONSES TO BEHAVIORAL CHANGES

Criteria	Strongly Agree (5)	Agree (4)	No Opinion (3)	Disagree (2)	Strongly Disagree (1)
1. Positive knowledge Mean - 4.38	30	41	2	0	0
2. Pupil interest Mean - 4.60	46	25	2	0	0
3. Critical thinking Mean - 4.00	18	40	12	3	0
4. Human relations Mean - 4.01	18	40	13	2	0
5. Vocabulary growth Mean - 4.14	26	33	12	2	0

TABLE IV
COMPARISON OF POSITIVE AND NEGATIVE RESPONSES

Criteria	Positive	Negative
1. Positive knowledge	72	1*
2. Pupil interest	72	1*
3. Critical thinking	64	9*
4. Human relations	63.5	8.5*
5. Vocabulary growth	65	8*
Totals	337.5	27.5*

*The results are significant in the positive direction at the .01 level of confidence.

CHAPTER V

SUMMARY AND CONCLUSIONS

I. SUMMARY

The purpose of this study was to determine through a survey of intermediate grade teachers the answers to the following questions:

1. What was the relative educational value of the materials brought to school by intermediate grade pupils?
2. What were the attitudes of the teachers toward the bringing of these materials?
3. What were the comparative values of these materials in terms of behavioral changes in pupils?
4. What was the value of using pupils as a source of audio-visual aids?

Through a rating scale type of survey, a sampling of teachers evaluated the audio-visual materials pupils brought to school. The evaluations were based on the teachers' opinions as to the behavioral changes in their pupils as a result of the materials having been utilized in the on-going classroom program. The results of these ratings were tabulated, tabled, and conclusions were drawn.

II. CONCLUSIONS

Intermediate grade pupils did contribute audio-visual materials to the instructional programs of their classrooms, and in the opinions of their teachers these materials had definite educational value.

A positive attitude was held by intermediate grade teachers toward the bringing and utilizing of pupil-contributed materials.

The greatest value of these pupil-contributed materials was as motivational forces in creating pupil interest in a particular topic of study.

The materials had some educational value in terms of the other behavioral changes of pupils (increased positive knowledge, improved critical thinking, improved human relations, and increased vocabulary growth).

No conclusions were drawn concerning the value of using pupils as sources for audio-visual materials since such conclusions could only have been based on inferences.

The final conclusion was that the materials contributed by intermediate grade pupils were utilized by teachers who had positive attitudes toward the educational value of the materials and toward the practice of pupils bringing these materials.

III. IMPLICATIONS FOR FURTHER STUDY

Although it was not one of the basic questions of this study, the results in Table II tended to indicate that materials contributed by the pupils were mainly suitable for use in the areas of science and social studies. Consequently, it is the writer's recommendation that further study be made concerning the types of materials and in what areas of study materials could be provided by the pupils.

Another recommendation is that of ascertaining the relative value of the pupils as a source of audio-visual materials as compared to recognized sources.

A study designed to furnish teachers with techniques of utilization of these materials would be helpful and worthwhile. Such a study should also give teachers some indications as to the proper attitudes to have toward pupil contributed materials.

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APPENDICES

APPENDIX A

AUDIO-VISUAL MATERIALS BROUGHT TO SCHOOL BY PUPILS

The purpose of this rating scale is to effect an indication of the values of audio-visual materials brought to school by your pupils. The criteria are in terms of observed behavioral changes in the pupils. The evaluation in all cases must necessarily be based upon the results shown by the majority of your pupils. Rate the behavioral changes shown as a result of the materials having been utilized in a particular unit of study in your classroom.

After each criterion check the appropriate column to indicate your opinion as to whether you strongly agree, agree, have no opinion, disagree, or strongly disagree that the behavioral changes indicated are a result of the materials having been utilized in a particular unit of study.

For the purpose of this scale consider audio-visual materials to be any materials of an instructional nature appealing to the senses of seeing and/or hearing and not primarily to be read.

Some examples of audio-visual materials children bring to school are rocks, pictures, animals, insects, coins, models, objects from foreign countries, specimens of sea life, and plants.

APPENDIX B

AUDIO-VISUAL MATERIALS BROUGHT TO SCHOOL BY PUPILS

Due to the variety of materials brought by your pupils, consider only those utilized in conjunction with a particular unit of study. Please indicate the unit of study on the line below:

Criteria	Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
1. The pupils gained a greater understanding of the topic as shown by positive knowledge of and improved attitudes toward the importance of the study.					
2. The pupils had an increased interest in the topic under study as shown by increased participation in on-going classroom activities.					
3. The pupils think more critically as shown by their evaluation of the materials as to appropriateness, and by their ability to identify inaccurate factual data.					
4. The pupils showed improved human relations as shown by an appreciation and respect for the contributions, ideas, and opinions of other people.					
5. The pupils showed growth in vocabulary as shown by the understanding and use of new words in discussions.					

Name _____ School District _____

Grade Level Taught During the 1959-60 School Year _____