A SURVEY OF COMPETENCIES IN THE USE OF MEDIA

POSSESSED BY SELECTED TEACHERS

by ∂⁊∂ʒ⎽

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INTRODUCTION

"Studies of effective instruction continue to
identify the role of the classroom teachers as highly
significant. Whether a student is exposed to excite-
ment or drudgery, to intellectually stimulating or
pedantic teaching, to student-or teacher-centered
learning will depend upon his teacher. Even in class-
rooms where technology is employed wisely, its success
or failure depends on the extent to which the teacher per-
ceives and applies positively new instructional models.
It is for these reasons and others that there is a great
and continuing concern for the extent to which preservice
programs provide for the development of media competen-
cies of teachers."[1]

These competencies are developed with a threefold approach in

the Teacher Education Program at Kansas State University. General

utilization of media in education is incorporated by a lecture-demon-

stration attended by all students in the program. Laboratory sessions

are used by the students to gain experience in operating instructional

equipment. Integrating and implementing media instruction is handled

within the teaching methods classes.[2]

Concurring with Meierhenry in regard to the development of media

competencies in preservice programs, there is a need at this time to

determine what competencies are possessed by teachers who have received

their professional preparation at Kansas State University.

Statement of the Problem

The purpose of this report was to determine what competencies

in the use of media are possessed by teachers who have received their

professional preparation at Kansas State University in the past two

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[1]W. C. Meierhenry, "Media Competencies of Teachers," Audio
Visual Instruction, Volume 14, January, 1969, pp. 45-46.

[2]Statement by Fred A. Teague, personal interview, January 7,
1970.

years. It was also determined how frequent educational media was used and what equipment was available to them.

Definition of Terms

Educational Media and Audiovisual Materials are terms used interchangeable to refer to the area of education in which non-book materials and the equipment necessary for its use are used in the teaching-learning process.

Teacher competencies in the use of media refers to the knowledges and skills needed for the use of media in the learning-teaching processes.

REVIEW OF THE LITERATURE

A review of literature in the Kansas State University Library was made to determine what competencies were needed for the use of media in the classroom. Reference tools such as the Educational Index were used to locate literature. The literature reviewed included professional educational journals, books on media and other miscellaneous reports on media.

The competencies were grouped under a classification scheme suggested by Fulton and White.[3]

Proficiency in selection and evaluation of materials.

1. The teacher should be aware of the nature of the common types of material and equipment including the educational values and limits of each.

2. The teacher should know the sources of material and equipment locally, nationally and internationally.

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[3]William R. Fulton and Frederick A. White, "What Constitutes Teacher Competence in Audio-Visual Communication?," Phi Delta Kappan, Volume 40, January, 1959, p. 159.

3. The teacher should be aware of the services of the audio-
    visual department and understand the best ways of using
    that service. He should also understand his responsibility
    for cooperating with the department.

4. The teacher should be knowledgeable about the different
    types of audiovisual material that are available in the
    specific area of the teacher's interest and their poten-
    tial educational worth and uses.[4]

5. The teacher should be able to select audiovisual materials
    to meet pupil's needs and the purposes of instruction.

6. The teacher should be able to evaluate the effectiveness
    of the use of these materials and to modify and improve
    future instructional practices on the basis of this
    evaluation.[5]

Proficiency in the utilization of the appropriate instructional

materials.

1. The teacher should have a knowledge of the background and
    of the philosophical and psychological factors underlying
    the use of audiovisual material in the teaching-learning
    process such as: a) understanding that the accepted prin-
    ciples of use are based on sound research; b) acquainted
    with the historical development of the audiovisual program,
    as it affects us today; c) knowledge of the learning theory
    especially as it is applicable to overcoming learning
    difficulties and recognizing learning opportunities;
    d) knowledge of communications theory and learning theory
    underlying the use of audiovisual materials and equipment
    in the classroom.[6]

2. The teacher should be able to assemble and operate various
    kinds of equipment and to perform simple servicing
    operations.

3. The teacher should be able to display materials effectively
    on a bulletin board, in a classroom and in other appropriate
    locations.[7]

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[4]"The Okoboji Report," Audiovisual Instruction, Volume 4,
January, 1959, pp. 4-6.

[5]"The Pascoe Report," Audiovisual Instruction, Volume 4,
January, 1959, pp. 6-7.

[6]"The Okoboji Report," loc. cit.

[7]"The Pascoe Report," loc. cit.

Proficiency in the production of instructional materials.

1. The teacher should have skills in the simple preparation of materials appropriate to the needs and resources of the teacher and not otherwise available for classroom use.

2. The teacher should have the ability to determine when local production has inherent educational value.[8]

3. The teacher should be able to produce simple materials such as mounted prints, slides, posters, charts, graphs, models, collections of natural science materials and prepare exhibits.[9]

Proficiency in preparation and use of physical facilities.

1. Knowledge of the manipulation and arrangement of audio-visual equipment and materials for classroom use tends to encourage effective use of audiovisual materials.[10]

Although specific competencies are needed for this study, the trend seems to be toward more general and flexible competencies. This was pointed out specifically by Meierhenry in his report on the "Teacher Competencies Project." This project was initiated to develop a new list of competencies, or at least update the established lists to meet the requirements of the newer media. The project report concluded that the skills, understandings and attitudes are constantly changing while the process is fixed.

The report included three general competencies which were included with a challenge to the teacher education programs. First, there is a need for theory which is translated into a form where teacher education students can experience and judge the validity of the approaches for themselves. The second competency might be called message design, the development of an instructional sequence or an

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[8]"The Okoboji Report," loc. cit.

[9]"The Pascoe Report," loc. cit.

[10]Fulton and White, loc. cit.

instructional system. Third, the teacher must develop certain skills

in the production of materials and in the operation of equipment.[11]

METHODS AND PROCEDURES

The 100 respondents for the report were selected randomly

from a list provided by the Placement Office on the campus of Kansas

State University. This list of 436 represented approximately 50 per-

cent of the total number involved in the teacher education program

during the 1967-1968 and 1968-1969 school years. A more complete list

of addresses was not available because a number of students did not

inform the Placement Office of their teaching location. Those that

did not take a teaching job after graduation also contributed to the

lesser percent of total students completing the program.

A sample was obtained by numbering the list of teachers and

selecting numbers from a table of random numbers.[12]

Three instruments were mailed to the respondents. These in-

cluded an instrument to inventory the competencies possessed by the

teacher, an instrument to determine the frequency of use of certain

types of media, and an inventory which would determine what materials

and equipment were available to the teacher. The instruments appear in

the Appendix.

The competency inventory listed items of information and skills

which were related to the use of media. The teachers were asked to

indicate by checking those elements of knowledge or skills that they

knew or could perform successfully.

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[11]W. C. Meierhenry, "Teacher Competencies Project," _Audiovisual Instruction_, Volume 12, December, 1967, pp. 1030-1

[12]John T. Roscoe, _Elementary Statistics - For Student of the Behavioral Sciences_ (New York: Holt, Rinehart & Winston, 1969), p. 95.

The frequency of use inventory listed types of media which are used in instruction. They were followed by a row of numbers from zero to 20. The teachers were asked to circle the number which corresponded to the number of times they used that medium per month. If they used the medium, but not once a month, they were asked to put an X between zero and one.

The materials and equipment inventory listed various types of material and equipment used in instruction. The teachers were asked to check those that were available for their use. They were also asked to indicate by checking yes or no, if graphic materials were available for the production of transparencies and posters. They were asked if catalogs were available for obtaining audiovisual materials and if they had any formal training in use of media after completing the teacher education program. Those who had training were asked to indicate the nature of that training.

The questionnaires used in this study were developed by C. Edward Streeter.[13] They were originally validated for use in collecting data to correlate the relationship between the competencies possessed by teachers and the frequency of which they use media. They were constructed from information provided by a study of media competencies edited by W. C. Meierhenry. These questionnaires were used, with the permission of the author, because they included or implied those competencies which were identified in the review of literature and had been validated in a previous study.

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[13]Charles Edward Streeter, "A Study of Relationships Among Selected Factors Affecting Media Use by Classroom Teachers Within Selected School Systems" (unpublished Doctor's dissertation, Michigan State University, 1967), p. 51.

The competencies that were possessed were reported under the classification scheme suggested by Fulton and White.[14] The percentage of teachers possessing each competency was computed by dividing the number of teachers possessing the competency by the total number of respondents.

The frequency of use of specific types of media was reported by computing the average of the total use of the medium in one school month. For the purpose of clarification, the types of media were divided into two categories. These categories were newer media and traditional media. The frequency of use of each category was found by totaling the average frequency of use of each medium in that category, and dividing by the total number of media in the category.[15]

The availability of materials was reported by computing the percentage of teachers who had the materials at their disposal.

FINDINGS

Seventy-four of the total 100 teachers returned the questionnaires. Of the remaining 26 questionnaires, 18 could not be delivered because of address changes since graduation from Kansas State University, and a current address could not be located. There was a 90.4 percent return from the subjects for whom addresses were available.

Five of the teachers reported having additional training after graduation. It was determined that this training, which was in the form of graduate classes in the area of audiovisual instruction, would disqualify their returns because their training was not typical of those

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[14]Fulton and White, loc. cit.

[15]Charles Edward Streeter, loc. cit.

who received only undergraduate training. After the elimination of
these five returns, there remained a total of 69 which included 28
elementary and 41 secondary teachers who had returned usable question-
naires. This represents an 84 percent return from those who received
the questionnaires.

Media competencies possessed by the teachers were grouped
under a classification scheme used by Fulton and White.[16] The tables
indicate both the number and percentage of teachers possessing the
competency. They are arranged in order from the greatest to the least
percentage of teachers possessing the competency.

Table I was divided into two groups. The Theory of Utilization
of Media was reported in Part A. Competencies related to the operation
of equipment was reported in Part B.

Eighty-four percent of the teachers reported that they could:
1) incorporate audiovisual materials as a part of the normal flow of
classroom instruction, and 2) introduce and follow-up audiovisual
presentations. Teachers who could adapt audiovisual techniques to
various sized groups of learners totaled 53.6 percent of the respon-
dents. Fewer than 40 percent of the teachers reported possessing the
remaining competencies related to utilization theory. Only 13.1 per-
cent indicated that they could work effectively with a television
teacher's presentation.

The teachers were more competent in operating equipment.
Ninety percent or more of the teachers indicated that they could set
up and operate equipment such as the record player, overhead projector,

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[16]Fulton and White, loc. cit.

TABLE I

NUMBER AND PERCENTAGE OF TEACHERS POSSESSING COMPETENCIES RELATING TO THE UTILIZATION OF MEDIA

Part A. Competencies Relating to Utilization Theory	Elementary N = 28		Secondary N = 41		Total N = 69	
	No.	%	No.	%	No.	%
Incorporate audiovisual materials as a part of the normal flow of classroom instruction.	24	85.6	34	83.0	58	84.0
Introduce and follow-up audiovisual presentations.	24	85.6	34	83.0	58	84.0
Adapt audiovisual techniques to various sized groups of learners.	16	57.1	21	51.2	37	53.6
Specify the learning task in behavioral terms.	10	35.3	17	41.5	27	39.2
Overcome audiovisual limitations through appropriate methodology and editing or restructuring the materials.	7	25.0	21	51.2	28	40.6
Make and use such chalkboard aids as templates, disclosure devices, and opaque enlargements.	10	37.5	8	19.5	18	26.1
Work effectively with a television teacher's presentation.	8	31.4	1	2.4	9	13.1

TABLE I (continued)

Part B. Competencies Relating to
Operation of Equipment

	Elementary N = 28		Secondary N = 41		Total N = 69	
	No.	%	No.	%	No.	%
Record player	28	100.0	41	100.0	69	100.0
Overhead projector	28	100.0	37	90.2	65	94.3
Filmstrip projector	28	100.0	37	90.2	65	94.3
16mm motion picture projector	27	96.5	36	87.8	63	91.5
Tape recorder	28	100.0	34	83.0	62	90.0
Opaque projector	24	85.6	28	68.2	52	75.4
Automatic slide projector	21	75.0	25	61.0	46	66.9
Perform simple maintenance techniques such as replacing projection lamps.	14	50.0	24	58.5	38	55.0
Still camera	15	57.1	20	48.8	35	50.7
Photo copier	10	35.3	25	61.0	35	50.7
Cartridge loading 8mm projector	15	57.1	15	36.6	30	43.5
Motion picture camera	7	25.0	18	43.9	25	36.2
T.V. receiver	12	35.7	4	9.8	16	23.2

filmstrip projector, 16mm motion picture projector, and tape recorder. Seventy-five and four tenths percent of the teachers reported being able to operate the opaque projector. Skills necessary to operate the automatic slide projector were possessed by 66.9 percent of the teachers. Fifty-five percent of the teachers could perform simple maintenance techniques such as replacing a projection lamp. The same percentage of teacher reported having the skills to operate a still camera and photocopier (50.7 percent). The equipment that less than 50 percent of the teachers could set up and operate included the cartridge loading 8mm projector (43.5 percent), motion picture camera (36.2 percent) and the T.V. receiver (23.2 percent).

Table II shows the number and percentage of teachers possessing competencies related to the selection and evaluation of media. Ninety percent of the teachers indicated that they could acquire materials from one or more sources of free material and from sources in the local school district. Seventy-nine and seven tenths percent of the teachers could evaluate the effectiveness of the use of materials in teaching. The competencies of recalling characteristics of various types of audiovisual equipment sources were possessed by 63.9 percent of the respondents. Fifty-eight percent of the teachers indicated that they could select audiovisual materials on the basis of principles derived from learning and communication theory. A slightly smaller percent (56.5) of the teachers could explain the various roles that media plays in the instructional process. The competency that the least percent of teachers possessed in this category was that of recalling results of research studies which have an implication for using audiovisual materials in teaching (36.3 percent).

TABLE II

NUMBER AND PERCENTAGE OF TEACHERS POSSESSING COMPETENCIES
RELATING TO SELECTION AND EVALUATION OF MEDIA

Competencies	Elementary N = 28		Secondary N = 41		Total N = 69	
	No.	%	No.	%	No.	%
Acquire materials from one or more sources of free materials.	25	89.2	37	90.2	62	90.0
Acquire audiovisual materials from sources available in the local school district.	24	85.8	38	92.5	62	90.0
Acquire audiovisual materials from sources available in the county or intermediate school district.	25	89.2	32	78.0	57	82.6
Evaluate the effectiveness of the use of materials in teaching.	25	89.2	30	73.0	55	79.7
Recall unique characteristics of various types of audiovisual equipment.	19	67.8	25	61.0	44	63.9

TABLE II (continued)

Competencies	Elementary N = 28		Secondary N = 41		Total N = 69	
	No.	%	No.	%	No.	%
Acquire audiovisual materials from sources available at the state level (universities, state dept., dept. of health, etc.).	12	42.8	32	78.0	44	63.9
Explain the various roles media plays in the instructional process (record instruction, extend the teacher, enhance learning).	16	57.1	23	56.0	39	56.5
Recall results of research studies which have implication for using audiovisual materials in teaching.	19	39.3	25	34.2	44	36.3
Select audiovisual materials on the basis of principles derived from learning and communication theories.	14	50.0	26	63.4	40	58.0

Table III contains the number and percentage of teachers possessing competencies related to the production of media. The skills of producing a tape recording with only one voice was possessed by 84 percent of the teachers. Fewer of the respondents (23.9 percent) could prepare a tape recording that required dubbing from records or other tapes. Eighty-one and two tenths percent of the teachers could make transparencies using a marking pencil or pen on acetate. Fewer than 50 percent (49.2 percent) could produce transparencies using a heat process or a diazo process. Fifty-five percent of the teachers indicated that they could mount graphic materials with dry mount tissue yet only 2.9 percent indicated that they could apply laminating film to flat materials. These are related skills in that they both require the use of a heat process.

Table IV shows the number and percentage of teachers possessing the competencies related to the preparation of physical facilities for the use of media. Fifty-nine and five tenths percent of the teachers could design and arrange the learning space to most effectively use audiovisual materials. The percentage of teachers who could prepare the learning space for the optimum use of projected materials was 33.4.

Table V gives the average number of times per month certain types of media were used in the instructional process by the respondents. The types listed under newer media include the projected materials as well as audio sources, television programs and programmed material. Disc recordings were used by both elementary (7.3 times per month) and secondary teachers (2.8 times per month). Elementary teachers used 16mm motion pictures an average of 2.62 times per month while this medium was used 2.5 times per month by the secondary teachers. The overhead projector was used 4.4 times per month by the elementary teachers and 2.7 times per month by the secondary teachers

TABLE III

NUMBER AND PERCENTAGE OF TEACHERS POSSESSING COMPETENCIES
RELATING TO THE PRODUCTION OF MEDIA

Competencies	Elementary N = 28		Secondary N = 41		Total N = 69	
	No.	%	No.	%	No.	%
Prepare tape recordings that require only one voice.	27	96.5	31	75.5	58	84.0
Prepare transparencies (single or overlay) using a marking pencil or felt pen directly on acetate.	25	89.4	31	75.5	56	81.2
Prepare materials for use with at least one type of "teaching board" (flannel, felt, magnetic, or hook and loop).	26	93.0	27	66.0	53	77.0
Construct models, or build dioramas, or work with papier mache (one or more).	28	100.0	21	51.2	49	71.0
Mount graphic and pictorial materials using rubber cement or dry mount tissue.	14	30.0	24	58.5	38	55.0

TABLE III (continued)

Competencies	Elementary N = 28		Secondary N = 41		Total N = 69	
	No.	%	No.	%	No.	%
Prepare transparencies using a heat process (Thermofax) or a diazo (ammonia) process.	12	42.8	22	53.5	34	49.2
Do cartooning and simple sketching.	10	37.5	19	46.3	29	42.0
Prepare tape recordings that require dubbing from records or other tapes.	5	17.9	12	29.3	17	23.9
Produce programmed instruction materials.	6	21.4	8	19.5	14	20.1
Prepare tape-slide instructional presentations.	2	7.1	5	12.2	7	10.1
Plan and prepare an instructional T.V. or radio program.	3	10.7	3	7.3	6	8.7
Prepare photographic slides.	3	10.7	3	7.3	6	8.7
Apply laminating film over mounted or unmounted flat materials.	2	7.1	0	0.0	2	2.9
Plan and prepare an instructional film.	1	3.5	1	2.4	2	2.9

TABLE IV

NUMBER AND PERCENTAGE OF TEACHERS POSSESSING COMPETENCIES RELATING TO
PREPARATION OF PHYSICAL FACILITIES FOR MEDIA USE

Competencies	Elementary N = 28		Secondary N = 41		Total N = 69	
	No.	%	No.	%	No.	%
Store and maintain flat pictures, transparencies, etc.	25	89.2	30	73.0	55	79.7
Store and maintain films, filmstrip and tape recordings.	17	60.7	27	66.0	44	63.9
Design and arrange the learning space to most effectively use audiovisual materials.	17	60.7	24	58.5	41	59.5
Prepare learning space under varying conditions for optimum use of projected materials.	11	39.3	12	29.2	23	33.4

TABLE V

FREQUENCY OF USE OF MEDIA

Newer Media	Average No. of Times Used Per Month	
	Elementary	Secondary
Disc recordings (records)	7.30	2.80
Overhead projector	4.40	2.70
Programmed instructional materials	4.35	.82
Filmstrips	4.10	1.90
Tape recorder	3.10	.76
16mm motion picture	2.60	2.50
Television (educational)	2.50	.34
Language laboratory	1.90	.22
Opaque projector	1.60	1.40
Micro-projector	1.20	.13
8mm motion picture	.60	.40
Television (commercial)	.30	.01
Radio	.12	.06
Traditional Media		
Chalkboard	20.00	16.50
Models and objects	7.50	5.30
Maps and globes	6.80	.57
Teaching board (flannel, felt, magnetic, etc.)	7.10	3.30
Charts and graphs	5.40	3.60

Traditional media were used more frequently by both elementary and secondary teachers. The chalkboard was used more than any other type of media. The elementary teachers used the chalkboard 20 times per month and the secondary teachers used it 16.5 times per month.

The most obvious reason for not using media is that of not having the equipment available. Table VI shows the percentage of teachers having equipment available for their use. Every teacher reported having a record player available. Ninety-nine percent indicated that they had a filmstrip projector for their use. Other types of equipment which 90 percent or more of the teachers reported having available, were the tape recorder (94.5 percent) and the overhead projector (97.5 percent). These were followed closely by the 16mm motion picture projector (89.2 percent) and the opaque projector (89 percent).

Eighty-eight percent of the teachers indicated that they had graphic materials available for the production of transparencies and posters. Eighty-nine percent of the teachers indicated the availability of catalogs of audiovisual materials and equipment for obtaining instructional materials.

The types of equipment which were not available to a large percentage of the teachers included the 8mm projector (36.5 percent), T.V. receiver (37.8 percent), a photo copier (32.4 percent), still camera (24.3 percent) and dry mount press (10.8 percent).

CONCLUSIONS

1. Competencies related to the areas of selection and evaluation, and operation of equipment were more generally developed than other areas of competencies

TABLE VI

PERCENTAGE OF TEACHERS HAVING EQUIPMENT AVAILABLE

N = 69

Equipment	Percent
Record player	100.0
Filmstrip projector	99.0
Overhead projector	97.5
Paper cutter	97.5
Tape recorder	94.5
16mm sound projector	89.2
Opaque projector	89.0
Have catalogs of audiovisual materials and equipment readily available for use in obtaining instructional materials.	89.0
Have graphic materials available in building for use in the production of transparencies, posters, etc.	
Primary typewriter	78.5
Projector cart	78.5
Filmstrip viewer	62.0
Automatic slide projector	44.5
Programmed materials	40.5
T.V. receiver	37.8
8mm projector	36.5
Photo copier	32.4
Radio	25.6
Still picture camera	24.3
Dry mount press	10.8

related to the use of media.

2. Areas of competence which were least developed were the areas related to the production of materials and theory of utilization.

3. Frequency of use of traditional media was greater than that of newer media.

4. Most of the basic types of equipment for the use of sudiovisual materials were available to the teachers.

5. Possession of the competencies in operation of a type of audiovisual equipment does not appear to result in that medium being used in the instructional process.

Discussion

Several factors are responsible for the degree of development of certain areas of competencies. Competencies related to the operation of equipment are developed by the laboratory experiences provided by the media center.

Production skills were not developed because there has been no formal classroom attempt to develop these skills at the undergraduate level. Some students learned to prepare certain types of materials when they needed them for presentations in their methods class. They were usually taught these skills by the media lab assistants. There is a need for additional opportunities for the students to learn some of the basic production skills.

It was difficult to pinpoint reasons for the low frequency of use of media. There were several influential factors which were beyond

the scope of this study. For this reason, it was only possible to suggest that the competencies related to the utilization of media influenced the total usage. The survey indicated that those competencies related to utilization theory needed more development. The competencies related to the operation of equipment were well developed. Specific types of media were singled out to show a relationship between the skill to operate the equipment and its use in the classroom. The 16mm projector was used an average of 2.6 times per month, although 91.7 percent of the teachers indicated that they could operate the projector. The tape recorder was used 1.9 times per month and 90.5 percent of the teachers could operate one. It might be concluded that the skill of operating the equipment was not sufficient for the utilization of that equipment in the classroom. The colleges' responsibility must not end with simply training the future teachers to operate the equipment.

Limitations of the Study

Because of the limited scope of this report, not all factors influencing the use of media were surveyed. Availability of up-to-date material is certainly a factor that must be considered. Almost 90 percent of the teachers reported having graphic materials for the production of transparencies and posters, and catalogs from which to obtain instructional materials. This availability of materials cannot be interpreted to mean that they are produced or purchased and ultimately used in the classroom. Another factor influencing the use of media is that of released time and/or supportive personnel for the preparation of materials. If adequate preparation time is not allowed, the teacher will usually sacrifice the teaching materials first and resort to text-book and lecture teaching. If supportive personnel are.

not available to assist with those tasks which are time consuming or require special skills, then those materials are not usually made a part of the learning situation.

Additional research could be done to pinpoint more specifically the factors which influence the use of media in the classroom. Factors such as the behavior of the teacher, the sex of the teacher, the age of the teacher, and the subject taught by the teacher could be influencing the use of media. Until multi-variant research isolates these factors, it is difficult to plan a comprehensive program which will assure the use of media in the classroom.

Recommendations

The following are steps which could be taken to provide additional experience toward further development of competencies for the use of media. These steps could be taken without changing the organization of the block program. The instructors of the methods classes could include objectives which would provide information about, and experience with, equipment and materials related to the students' subject areas. Evaluation of these materials in the classroom setting would provide the needed experience to evaluate the materials later selected for teaching.

A course could be offered at the undergraduate level which would emphasize the utilization of media in teaching. Specific objectives for the course might include those which would develop the competencies to:

1. Prepare the learning space under varying conditions for optimum use of projected materials.

2. Recall results of research studies which have an implication for using audiovisual materials in teaching.

3. Incorporate audiovisual materials as a part of the normal flow of classroom instruction.

4. Explain the various roles media plays in the instructional process.

5. Adapt audiovisual techniques to various sized groups of learners.

The laboratory, now provided for the development of skills in operating equipment, could be expanded to include some production skills.

Experiences could be provided in techniques of preparing:

1. Heat process transparencies

2. Hand-made transparencies

3. Audio tapes with single voice

4. Audio tapes with dubbed sound

5. Cartoons and sketching (vidio taped instruction)

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        Educational Media," Audiovisual Instruction, 14: 60-61,
        January, 1969.

3. Dissertations

Streeter, C. Edward, "A Study of Relationships Among Selected Factors
        Affecting Media Use by Classroom Teachers Within Selected
        School Systems" (unpublished Doctor's dissertation, Michigan
        State University, 1967), p. 51.

Dear Sir:

The attached questionnaire concerned with competencies in the use of educational media (audiovisual materials) is part of a study which is being made by the College of Education at the Kansas State University. The purpose of this study is to determine if teachers who have completed the teacher education program possess the needed competencies to use educational media effectively in their teaching. The results of this study will be used to place new emphasis on certain media competencies in the teacher education program.

Your response is particularly needed because you represent the group of teachers who completed the program during the 1967-1968 school year. Your help will enable us to evaluate our program and better meet the needs of future teachers that attend the University. This questionnaire has been used in a similar study and was found to take approximately eight minutes to complete. Your response to this instrument will be confidential and you will not be identified in any report of the study. Your response will be combined with others to show a trend in the use of media.

It will be appreciated if you will complete the questionnaire prior to February 15 and return it in the enclosed stamped envelope. Our evaluation cannot be completed until all the questionnaires are returned. Thank you for your cooperation.

Sincerely yours,

Dear Sir:

The attached questionnaire which was mailed to you on February 6 1970, is part of a study conducted by the College of Education at the Kansas State University. The purpose of this study is to determine if teachers who have completed the teacher education program possess the needed competencies to use educational media (audiovisual materials) effectively in their teaching. The results of this study will be used to place new emphasis on certain media competencies in the teacher education program.

Your response is particularly needed because you represent the group of teachers who completed the program during the 1967 to 1969 school years. Your help will enable us to evaluate our program and better meet the needs of future teachers that attend the university. It is understood that your schedule must be busy; however, less than eight minutes of your time will enable us to make a more accurate evaluation. Your response to this instrument will be confidential and you will not be identified in any report of the study.

It will be appreciated if you will complete the questionnaire at your earliest convenience prior to March 7. Evaluation cannot be completed until all the questionnaires are returned. Thank you again for your cooperation.

                                            Sincerely yours,

MATERIALS AND EQUIPMENT INVENTORY

Please check the following items that you have at your disposal.

_____16 mm sound projector   _____Record player

_____8 mm projector   _____Tape recorder

_____Automatic slide projector   _____Projector cart

_____Filmstrip projector   _____Dry mount press

_____Filmstrip viewer   _____Photo copier

_____Radio   _____Paper cutter

_____Overhead projector   _____Primary typewriter

_____Opaque projector   _____Still picture camera

_____TV receiver   _____Programmed materials

Are graphic materials (acetate, marking pens, etc.) available in the building for use by the teachers in their production of transparencies, posters, etc.?

_____yes   _____no

Are catalogs of audiovisual materials and equipment readily available for use by the teachers in obtaining instructional materials?

_____yes   _____no

Have you had any formal training after the completion of the teacher education program in the use of audiovisual materials?

_____yes   _____no

If yes, indicate the nature of this training.

KNOWLEDGE AND SKILLS

Listed below are specific items of information and skill involved in the use of audiovisual materials. Will you please indicate by checking the appropriate blank of those elements of knowledge or akill which you know or can perform successfully.

KNOWLEDGE AND/OR SKILL TO:

_____1. Make and use such chalkboard aids as templates, disclosure devices, and opaque enlargements.

_____2. Do cartooning and simple sketching.

_____3. Mount graphic and pictorial material using rubber cement or dry mount tissue.

_____4. Prepare materials for use with at least one type of "teaching board" (flannel, felt, magnetic, or hook and loop).

_____5. Prepare transparencies (single or overlay) using a marking pencil or felt pen directly on acetate.

_____6. Prepare transparencies using a heat process (Thermofax) or a diazo (amonia) process.

_____7. Prepare tape recordings that require only one voice.

_____8. Prepare tape recordings that require dubbing from records or other tapes.

_____9. Prepare photographic slides.

_____10. Prepare tape-slide instructional presentations.

_____11. Apply laminating film over mounted or unmounted flat materials

_____12. Plan and prepare an instructional T.V. or radio program.

_____13. Plan and prepare an instructional film.

_____14. Construct models, or build dioramas, or work with paper mache' (one or more).

_____15. Produce programed instruction materials.

_____16. Specify the learning task in behavioral terms.

_____17. Evaluate the effectiveness of the use of materials in teaching.

_____18. Recall results of research studies which have implication for using audiovisual materials in teaching.

_____19. Acquire audiovisual materials from sources available in the local school district.

_____20. Acquire audiovisual materials from sources available in the county or intermediate school district.

_____21. Acquire audiovisual materials from sources available at the state level (universities, state dept., dept. of health, etc.).

_____22. Acquire materials from one or more sources of free materials.

_____23. Select audiovisual materials on the basis of principles derived from learning and communication theories.

_____24. Recall unique characteristics of various types of audio-visual equipment.

_____25. Explain the various roles media plays in the instructional process (record instruction, extend the teacher, enhance learning).

_____26. Design and arrange the learning space to most effectively use audiovisual materials.

_____27. Incorporate audiovisual materials as a part of the normal flow of classroom instruction.

_____28. Overcome audiovisual limitations through appropriate methodology and editing or restructuring the materials.

_____29. Adapt audiovisual techniques to various sized groups of learners.

_____30. Introduce and follow-up audiovisual presentations.

_____31. Work effectively with a television teacher's presentation.

_____32. Prepare learning space under varying conditions for optimum use of projected materials.

_____33. Perform simple maintenance techniques, such as replacing projection lamps.

_____34. Store and maintain flat pictures, transparencies, etc.

_____35. Store and maintain films, filmstrip and tape recordings.

KNOWLEDGE AND SKILL TO SET UP AND OPERATE:

_____36.   16mm motion picture projector

_____37.   Cartridge loading 8mm projector

_____38.   Filmstrip projector

_____39.   Automatic slide projector

_____40.   Overhead projector

_____41.   Opaque projector

_____42.   Record player

_____43.   Tape recorder

_____44.   T.V. receiver

_____45.   Photo copier

_____46.   Still camera

_____47.   Motion picture camera

USE OF AUDIOVISUAL MATERIALS

On this sheet are listed a few of the better known audiovisual materials. You have probably heard about most of these even if you haven't used some of them.

Beside each of the items listed below is a twenty point scale. Assuming there are 20 teaching days in a month, circle the number on the scale that approximates the number of days per month you use the item in your teaching.

Examples: If you use a radio in your teaching once a month, circle the number 1. If you use it once a week, circle 4. If you use an item, but use it less than once a month, put an X between 0 and 1.

Item	Scale
16mm motion picture	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
8mm motion pictures	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Filmstrips	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Disc recordings (records)	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Tape recorder	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Radio	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Television (commercial)	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Television (educational, Cl. Rm. 10, IMPATI) .	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
Teaching board (flannel, felt, magnetic, etc.)	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

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Models and objects 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Maps and globes 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Charts and graphs 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Programed instructional mtls. 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Overhead projector 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Opaque projector 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Language laboratory 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Micro-projector 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

Chalkboard 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

OTHER NON-BOOK MATERIALS NOT LISTED

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

A SURVEY OF COMPETENCIES IN THE USE OF MEDIA
POSSESSED BY SELECTED TEACHERS

by

GEORGE E. HUFFMAN

B. S., Kansas State Teachers College, 1966

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AN ABSTRACT OF A MASTER'S REPORT

submitted in partial fulfillment of the

requirements for the degree

MASTER OF SCIENCE

College of Education

KANSAS STATE UNIVERSITY
Manhattan, Kansas

1970

The purpose of this report was to determine what competencies in the use of media are possessed by teachers who have received their professional preparation at Kansas State University during the 1967-1968 and 1968-1969 school years. It was also determined how frequent media were used in the classroom and what equipment was available to the teachers.

A random sample of 100 teachers was taken from a list of graduates provided by the Placement Office of Kansas State University. There was a 69 percent return from the total 100 teachers in the study.

The questionnaires used to gather the data was developed by C. Edward Streeter and validated in a study completed at Michigan State University.

Conclusions drawn from the results of the study were:

1. Competencies related to the areas of selection and evaluation, and operation of equipment were more generally developed than other areas of competencies related to the use of media.

2. Areas of competence which were least developed were the areas related to the production of materials and theory of utilization.

3. Frequency of use of traditional media was greater than that of newer media.

4. Most of the basic types of equipment for the use of audiovisual materials was available to the teachers.

5. Possession of the competencies in operation of a type of audiovisual equipment does not appear to result in that medium being used in the instructional process.

Recommendations for the provision of additional experience toward the development of media competencies are three-fold.

1. A course could be offered at the undergraduate level which would emphasize the utilization of media in teaching.

2. The media laboratory, which now provides for the development of skills in the operation of equipment, could be expanded to include certain skills in the production of audiovisual materials.

3. Specific objectives could be developed in the methods classes to provide information about and experience with equipment and materials related to the student's subject area.