1972

Perceptions of elementary classroom teachers concerning instructional media and services provided by regional educational media centers

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Perceptions of elementary classroom teachers concerning instructional media and services provided by regional educational media centers

by

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A Dissertation Submitted to the
Graduate Faculty in Partial Fulfillment of
The Requirements for the Degree of
DOCTOR OF PHILOSOPHY
Major: Education

Approved:

Signature was redacted for privacy.

In Charge of Major Work

Signature was redacted for privacy.

For the Major Area

Signature was redacted for privacy.

For the Graduate College

Iowa State University
Ames, Iowa

1972

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INTRODUCTION

Iowa's Regional Educational Media Centers

Iowa's plan for a state-wide program of instructional media and services is based on the establishment of sixteen regional educational media centers. These media centers are sometimes referred to as area media centers. These geographic areas encompass the complete state, and the boundary lines for the individual regions approximate those for the community colleges within the state of Iowa. For the purpose of the study, the writer will refer to these areas as regions and to the media centers within these regions as regional educational media centers.

Iowa's regional educational media centers are unique in that media supplies and equipment are acquired under Elementary and Secondary Education Act (ESEA) Title II appropriations which are dispersed by the Iowa State Department of Public Instruction. Typically, allocations of ESEA Title II funds in other states have been through the local school districts. In Iowa, however, each regional media center is responsible for the acquisition, display, and loan resources to all public and private elementary and secondary schools located within the geographic area. The ultimate purpose of this program has been to provide elementary and secondary schools in Iowa with a greater quantity of instructional materials of high quality.

Title II funds are direct grants of federal money to the state of Iowa. The U. S. Commissioner of Education has been authorized to make grants to states for a five-year period, with allocations for each year being determined by the United States Congress. This type of educational

grant is completely financed by Title II monies with no state or local matching funds being required. The Iowa Department of Public Instruction (17, p. 2) can expend the funds that have been allocated if the funds are used for:

(1) The acquisition, cataloging, processing, and initial delivery of school library resources for use by children and teachers in public and private elementary and secondary schools. School library resources is interpreted to mean both print and non-print materials.

(2) State and local administrative costs incurred as a direct result of the administration of the Title II plan. The local administrative costs mentioned here refer to the three-fourths of one percent of the area's total allocation which is available to each area from state administrative funds for the development of catalogs of materials.

The regional educational media centers have been charged with the additional responsibility of coordinating funds from other federal, state, or local aid programs which are more efficiently dispersed by the Iowa Department of Public Instruction and the sixteen regional areas. Programs of this type which have been coordinated by the regional media centers are (1) special education programs for the visually and physically handicapped, (2) Title VI ESEA, (3) special education, (4) Title II ESEA, (5) Hawks music program, and (6) work experience programs for the Office of Economic Opportunity.

The administrative structure of the Iowa regional educational media centers originates in the Iowa Department of Public Instruction where the administrator of ESEA Title II, who is Chief of the Educational Media Section, and one associate coordinate the operations of the regional centers with the Department of Public Instruction (see Illustration 1). A Title II state advisory committee works very closely with the Chief of

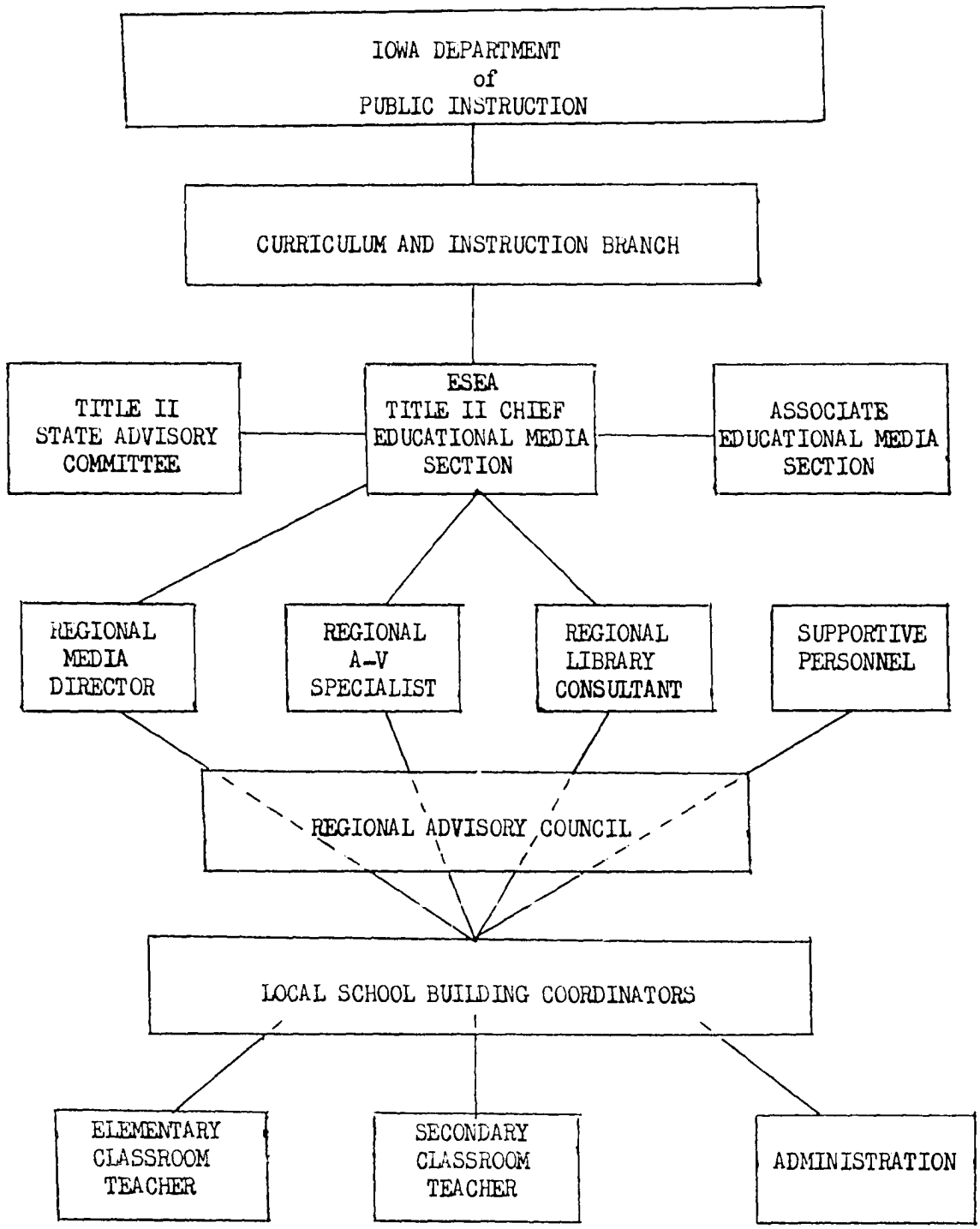

Illustration 1. Administrative structure for regional educational media centers in Iowa

the Educational Media Section and his associate. This committee is called upon to meet with the directors of all the regional media centers at designated intervals. The professional committee is composed of teachers, administrators, and/or supervisors of local schools, colleges, and libraries. The committee is charged with the responsibility of studying existing standards relating to school media centers and resources, developing new media standards in Iowa, and studying and revising criteria relative to administrative duties.

Regional media center directors are charged with the responsibility of making recommendations regarding the administration of funds within the region and the implementation of the total regional media program. Each region has a designated advisory council. This council is composed basically of administrators who represent public and private schools within the region. The responsibilities of this committee include advising the administration with respect to the distribution of materials and financing of the regional center. The Iowa Department of Public Instruction (17, p. 19) states that some of the basic policies to be developed by this group are to determine:

> ...length of loan periods, the appointment of building coordinators, payment for lost or damaged goods, types of materials to be purchased, and other matters of concern to the media center.

The internal operation of the regional media center has been generally charged to five categories of individuals, including a full-time director, an audiovisual specialist, a library consultant, supportive personnel, and a building coordinator for each attendance center.

The regional media director, the audiovisual specialist, and the

library consultant are staff members who have had specialized training in their respective subject areas. These people have been employed to make the administrative decisions for the center, coordinate materials with the needs of local schools, provide in-service training for teachers and administrators, and work with the regional selection committee to determine what materials should be purchased by the center.

Supportive personnel at the regional centers include clerical and professional people who assist in the routine operation of these centers. The Department of Public Instruction (17, p. 17) lists some of these specialists as follows:

(a) Personnel responsible for organizing, cataloging, and processing materials in the center library.
(b) Personnel responsible for local production of teaching materials.
(c) Personnel responsible for maintenance of materials.
(d) Personnel responsible for distribution of materials.

Local media or building media coordinators are individuals who coordinate the services of the regional educational media center with the local school and are generally responsible for the continual evaluation of the needs of teachers and pupils. These local school media coordinators devote either full- or part-time to this service duty depending upon the size of the school. The elementary classroom teacher may advise local media coordinators, regional media staff, or regional advisory committee members of his specific needs.

The ESEA Title II funds comprise the largest single appropriation of funds to the regional media centers in the state of Iowa. All of the funds which are allocated to each sub-agency are to be expended for school library resources, including both print and non-print materials. Begin-

ning with the fiscal year 1969, the following flexible formula has been used in each regional media center to determine what type of materials should be purchased. A report of the Iowa Department of Public Instruction (17, p. 3) states:

> ..., not more than 75 per cent and not less than 25 per cent of the total allotment may be spent for print materials; and not more than 75 per cent and not less than 25 per cent of the total allotment may be spent for non-print materials.

In the same report (17, p. 9), allocations of Title II funds to each state shall be distributed by the following criteria:

(1) The quality, quantity, and recency of instructional materials currently provided in the applicant's elementary and secondary schools.
(2) The requirements of the applicant's elementary and secondary instructional programs.
(3) The requirements of children and teachers in special or exemplary instructional programs.
(4) The culture or linquistic needs of children or teachers.
(5) The degree of economic need.
(6) The applicant's previous and current financial efforts to provide instructional materials in relation to financial ability.

Total allocations to the individual regional educational media centers have been determined on the basis of the enrollment of the schools within the region, on the basis of wealth-per-child using the inverse ratio, and on the basis of a relative need factor. This formula for the distribution of funds has been constantly under study and will be changed in view of the annual increase or decrease in funds to the state of Iowa. A list of total allocations to the sixteen regional media centers during the years 1966 through 1970 is found in Table 1. It should be noted that the amount of money allocated for state administration in any fiscal year should not exceed five per cent of the amount paid to the state under the

Table 1. Elementary and Secondary Education Act Title II allocations for Iowa by area and fiscal year[a]

Area		Fiscal Year Allocations 1966	1967	1968
I	Decorah	$ 53,457.46	$ 77,329.35	$ 33,354.29
II	Mason City	63,721.75	75,133.18	63,930.15
III	Emmetsburg	38,931.45	57,705.90	42,391.39
IV	Sheldon	20,000.00	57,006.00	37,903.13
V	Fort Dodge	31,606.04	89,503.52	89,145.00
VI	Marshalltown	20,000.00	62,305.78	48,239.61
VII	Waterloo	93,810.70	100,132.38	107,175.56
VIII	Dubuque	113,965.99	89,717.70	92,686.08
IX	Davenport	207,271.52	109,650.16	122,333.76
X	Cedar Rapids	117,828.86	118,511.14	138,604.04
XI	Des Moines	223,470.82	178,283.78	222,015.17
XII	Sergeant Bluff	86,088.33	97,559.09	96,793.21
XIII	Council Bluffs	174,820.02	90,905.68	91,239.72
XIV	Red Oak	20,000.00	53,052.27	34,357.18
XV	Ottumwa	71,167.25	87,842.82	71,529.24
XVI	Mt. Pleasant	96,702.58	75,884.60	59,177.60
Totals[b]		$1,446,101	$1,495,947	$1,448,999

[a]Data obtained from the Planning and Management Information Services (18).

[b]This amount includes State Administrative Funds.

Fiscal Year Allocations		
1969	1970	Totals
$ 33,354.29	$ 24,695.86	$247,865.12
35,684.34	26,278.40	264,747.82
29,351.31	18,403.88	186,783.93
28,537.52	16,988.16	160,434.81
42,922.24	34,448.15	287,624.95
31,520.36	21,250.03	183,315.78
50,589.75	43,079.36	394.787.75
36,872.47	36,233.32	369,475.56
50,185.26	48,327.30	537,768.00
58,053.27	55,693.90	488,691.21
86,936.17	90,494.23	801,200.17
45,923.74	40,226.94	366,591.31
45,453.84	37,909.68	440,328.94
26,916.97	16,292.60	150,619.02
37,317.49	27,834.19	295,690.99
33,322.98	24,578.00	289,665.76
$772,942	$612,734	$5,776,723

Title for the year, or $50,000, whichever is greater.

Materials eligible for purchase by ESEA Title II funds may consist of books (including textbooks, paperbacks, and pre-bound books), periodicals, documents, pamphlets, photographs, reproductions, pictorial or graphic works, musical scores, maps, charts, globes, sound recordings, processed slides, transparencies, films, filmstrips, kinescopes, video tapes, or other printed and published materials of a similar nature.

Each of the sixteen regional educational media centers is requested to establish a selection committee composed of teachers, supervisors, subject matter coordinators, principals, audiovisual specialists, media specialists, and librarians. This committee will evaluate and screen print and non-print materials. Individual teacher-student requests are given priority consideration when determining the types of materials to be purchased and the curriculum areas to be emphasized.

A written selection policy governing the evaluation and selection of media for each region is to be developed and a copy filed with the Iowa Department of Public Instruction. The Iowa Department of Public Instruction (17, p. 11) suggests the following items be considered:

(1) Curriculum
(2) Needs of children and teachers
(3) Cooperative efforts of professional personnel
(4) Quality of content
(5) Evaluation prior to purchase
(6) Quality of technical features
(7) Quality of format
(8) Use of standard evaluation tools
(9) Balance among needs
(10) Continuing selection process

It has been recommended that specialized and expensive media may be purchased at the regional level. This would provide supplementary media

to local schools which would not ordinarily be able to purchase these types of items for their own use. Textbooks have been given a low priority in Iowa, and have not, therefore, been purchased to any extent. Single copies of textbooks or teacher editions are purchased for use in curriculum development. Second-hand, old editions, or unique original copies of materials published in the past may be acquired through the use of Title II funds.

Periodicals acquired by the regional educational media center usually consist of those used for media selection, in-service education, and student use. Microfilm copies of back issues of periodicals may be purchased. The emphasis of periodicals for student use, many times, will feature titles not found in the usual local school collection or copies of back issues.

Films may be purchased outright or through a "lease-to-own" system. Local schools request films quite frequently since the regional educational media center can usually furnish this item at a more reasonable rental fee than the film rental libraries located within the state of Iowa. As an added benefit, the delivery of films should be more expedient from the regional educational media center than from any other source.

Specific policies concerning the eligibility of duplicate film titles have been made. Films purchased with ESEA Title II funds must follow the policy for elementary and secondary level films (17, p. 5):

> When buying a new title, two copies may be purchased. The center must have 1,000 prints before additional duplicates beyond the original two copies may be purchased at the secondary level. The 1,000 limit should include all films in the center, --not just those purchased with ESEA Title

> II funds. After this minimum has been reached, no limit will be set on the number of duplications.
>
> After the first year at the elementary level, duplicates may be purchased where there is justification for need --the 1,000 print limit does not apply at the elemantary level.

The costs of ordering, processing, and cataloging of materials are eligible for ESEA Title II reimbursement. This compensation is allowable for such ordering, processing, and cataloging necessary and essential for making the benefits of all media available to children and teachers. Processing costs of $1.10 per item may be approved for reimbursement as long as the total cost does not exceed the estimated cost for processing and initial delivery. Some of the specific costs which can be included under processing costs for media as described by the Iowa Department of Public Instruction (17, p. 13) are:

(1) That part of the cost of each item not to exceed $1.10 that is designated by a vendor supplying pre-processing materials and/or
(2) The materials and equipment necessary for cataloging and processing not to exceed $1.10 per item:
    (a) Catalog cards; printed or processing kits
    (b) Catalog cards; plain
    (c) Card pockets, book cards, date slips
    (d) Protective covers
    (e) Labelers and materials to operate them
    (f) Property and area identification stamps
    (g) Numbering machines
    (h) Typewriters; special platens and keys
    (i) Typewriter stands
    (j) Desks for cataloging and/or processing clerks and cataloger
    (k) Chairs for above desks
    (l) Salary and wages for time actually spent processing materials
    (m) Portion of cost of duplicating equipment and material which represents per cent of machine time and material to produce one set of cards, book cards, pockets, labels.

Media purchased with ESEA Title II funds must be made available to public and private school participants on a loan basis only. Loans are for a definite period of time, but not to exceed a long-term basis of three months. Specific policies and procedures regulating the circulation of media are determined by the professional staff of the individual regional center with the suggestions of the regional advisory committee. All media purchased by the regional media center must be either stamped or labeled "Property of Iowa State Department of Public Instruction." Each item should also be identified with a number so that misplaced items may be returned to the proper center.

Delivery of media to the local school is accomplished in a variety of methods; however, the two most frequently used methods are (a) by the United States Mail, or (b) by a delivery van or truck. Initial contact for these services arrive by the U. S. Mail, telephone, or an individual who will personally come to the regional media center.

In-service training has been offered by all the regional media centers in Iowa on an individual or small-group basis upon request. Recently, the Iowa State Department of Public Instruction has placed additional emphasis upon in-service teacher-oriented programs.

Ideally, a reagional media center would have a facility which would provide adequate shelving and housing for current and anticipated inventory of media resources, an adequate maintenance and inspection area for all media, an adequate preview and browsing area to provide for the inspection of media by local teachers, an adequate area for the production of those materials that are requested, and an adequate area for shipping,

pickup, and delivery from the regional media center. The procedure and request for these services will vary from one regional media center to another. It is reasonable, therefore, to expect each of the sixteen regions to differ with respect to the physical needs of the center within that region.

Each of the sixteen regional educational media centers in Iowa has made an attempt to furnish the type of structure which will best fulfill its particular needs. Appropriations for the construction of new facilities have not been provided for from ESEA Title II funds. Therefore, the various regional centers have been forced to acquire the most efficient older structure obtainable, frequently resulting in a very effective operation. Area XIII regional media center at Council Bluffs is utilizing an abandoned missile base; Area I media center at Decorah has been housed in an old remodeled city hospital; and Area IX media center at Davenport has made very effective use of a retail automobile dealers sales and service area.

Need for the Study

The concept of financing sixteen regional educational media centers with Title II funds is unique to Iowa. Other states have utilized the regional concepts for media and services with various types of financial support. The services performed by Iowa's Regional Educational Media Centers are similar in function to those of a school district media center of a larger school system; however, as the name implies, the regional media centers provide media and services to schools over a greater geographic area. These centers must attempt to fill the requests of school

systems having different educational objectives. Various types of administrative, teaching, and clerical personnel are involved in the distribution and loan of these materials and services. In light of the diminishing allocations from ESEA Title II funds, it may be necessary in the near future to seek funds from the state or local school districts in order to allow all sixteen regional media centers to remain functional.

The publication "Data on Iowa Public Schools" (13, p. 1-15) indicates that nearly one-half of the 650,000 public school children in the state belong to school districts with fewer than 2,000 pupils. More than three-fourths of the public high schools have fewer than 300 pupils in attendance. It could be realistically assumed that many of these schools have no media center and a very meager library collection available to their students and faculty. It would be doubtful that most of these schools could provide their faculty and students with a full-time media director, librarian, or audiovisual coordinator. The study proposed here should evidence how elementary classroom teachers perceive media and services provided to them with the assistance of regional personnel.

A major need for studies of the type proposed here should be for diagnostic purposes of regional educational media centers. A state-wide organization such as the one considered here should be aware of any weaknesses or strengths which it possesses individually or as a conglomerate. With an organizational concept as radically different as the one which now exists in Iowa, it is likely that there will be proposals to return to the traditional local school media center.

Finally, it should be of prime interest to regional media personnel

who are providing those educational media and services to the individual student and teacher in the classroom. The proposed study should provide evidence of how elementary classroom teachers perceive these educational media and services.

Purpose of the Study

The purpose of the investigation is to study the perceptions of elementary classroom teachers toward the educational media and services which are being provided for them by the regional educational media centers in Iowa. Since perceptions of elementary classroom teachers are likely to be influenced by certain personal characteristics such as educational degree attainment, media training, sex, teaching responsibility, similar tenure, and the availability of a full-time media director, this type of information was also collected. The purpose of a second group of questions was to inquire of the characteristics of the educational media and services which the teachers had utilized from their local media centers. The purpose of a third set of questions was to allow the elementary teacher to express a preference for delivery services and in-service programs.

It is hoped that these findings will aid in making future decisions with regard to types of educational media and services provided to elementary classroom teachers. An equally important desire is that the study will make a positive contribution to the quality of classroom instruction.

Objectives of the Study

The objective of the study is to determine the perceptions of elementary classroom teachers concerning the educational media and services pro-

vided by the regional educational media centers in Iowa. The following two objectives are the most pertinent to the investigation:

1. To determine the distribution of selected elementary classroom teacher characteristics (educational degree attainment, media training, sex, teaching responsibility, tenure, and the availability of a full-time media director) representative of these teachers utilizing educational media and services provided by the regional educational media centers in Iowa.
2. To study the perceptions of elementary classroom teachers with similar teaching responsibilities regarding the regional educational media and services provided by the regional educational media centers in Iowa.

Delimitations of the Study

The study is limited to the public elementary classroom teachers and to the existing sixteen regional educational media centers in the state of Iowa. A total of 1,252 elementary classroom teachers have been consulted as to their perceptions of instructional materials and services provided by these regional educational media centers. No attempt has been made to determine the elementary classroom teachers' perceptions of other aspects of the regional educational media centers.

Definition of Terms

a. Regional Media Center (2, p. 57-58) refers to intermediate units of multiple school districts which exist to provide media services which smaller local school systems cannot easily provide for themselves.

b. Media (2, xv) refers to printed and audiovisual forms of communication and their accompanying technology.

c. Media Specialists (2, xv) refers to individuals who have broad professional preparation in educational media.

d. Services (30, p. 2075) refers to performing any of the business functions auxiliary to production or distribution of services. To provide information or other assistance to.

e. Perceptions (1, p. 14) refers to the way things look to us,... a "meaning" or recognition.

f. Study Prints (7, p. 59) refers to photographs or other pictorial illustrations used with learning activities.

g. Multi-media Kits (5, p. 232) refers to teaching materials (filmstips, both silent and sound films, study pictures, and 2- by 2-inch slides) that are planned for certain learning experiences.

h. Realia (5, p. 594) refers to a term often used to represent any real materials employed in instruction....

REVIEW OF LITERATURE

Studies Relating to Teacher Perceptions

Studies concerning teacher perceptions of media and services at a local level or a regional level were not readily available. Two studies which touched upon the topic are worthy of mention.

Schor (26, p. 29) undertook a study to determine what variables among elementary school teachers affect their utilization of audiovisual materials. His stated purpose was as follows:

> ...namely to discover if there is a determinable relationship between the teacher use of audio-visual materials and (1) teachers' professional attitudes, (2) teachers' personality characteristics, and (3) teachers' attitudes toward the audio-visual materials used for instructional purposes....

The sample for this study consisted of 112 public school teachers in seven elementary schools in three school districts of Middlesex County, New Jersey. The teachers were contacted through faculty meetings which were arranged in their respective buildings with the approval of principals and district superintendents. The elementary teachers were divided into two criterion groups as users and non-users of audiovisual materials.

All of the elementary teachers in the sample were administered the Minnesota Teachers Attitude Inventory (MTAI), the Thurston Temperament Schedule (TTS), and the Teacher Audio-Visual Attitude Inventory (TAVAI).

This latter test was self-constructed by Schor. The instrument was pre-tested before field testing and consisted of two basic parts. Part one included a "teacher's self-rating scale" which determined usage of materials. The possible scores were: 1 - never used, 2 - seldom used, 3 - occasionally used, 4 - often used, and 5 - regularly used. The second

half of the instrument consisted of a sequence of questions concerning usage and procedures used with audiovisual aids. To each question the teacher could indicate his response in one of the following ways: (1) strongly agree, (2) agree, (3) uncertain, (4) disagree, or (5) strongly disagree. The results of these three tests were then related to a predetermined list of users and non-users of audiovisual materials.

Schor (26, p. 96-97) made three major conclusions from his study which appear to be pertinent to this study. These conclusions were:

> First, teachers who made greater use of these materials also were more likely, as measured by the Minnesota Teacher Attitude Inventory, to establish and maintain harmonious classroom relationships with their pupils.
>
> Second, these teachers tend to report many more favorable classroom incidents relating to the use of audio-visual materials with the implication that successful use acted as a stimulus to still further use.
>
> A further conclusion was that these teachers in their responses to the Teacher Audio-Visual Attitude Inventory, displayed a far more pronounced consensus of opinion with reference to issues in the field of audio-visual education. They apparently appreciated more fully their own role and the role of a wide range of audio-visual materials, in the teaching-learning situation.

A second study by Hoffman and others (12, p. 161) was concerned with elementary teacher perception of pupil sociometric choice. The study dealt with an experiment designed to help teachers work with children who were social isolates in the classroom.

The sample for this study consisted of twenty-eight elementary teachers from a single elementary school of approximately 800 pupils. Specific questions were asked of the children in order to determine who among their classmates were socially isolated or rejected. The teachers

were then asked to anticipate the three pupils most frequently chosen and the three pupils least frequently chosen by their classmates as being playmates, workmates, and seatmates. A comparison was then made between the teachers' choices.

The twenty-eight teachers' choices were compared to the children's choices with the following observations (12, p. 161):

(1) The primary grade teachers, when surveyed as a separate group, were better able to anticipate children's choices than were the intermediate grade teachers.

(2) Primary grade teachers were best able to anticipate children's choices of seatmates.

(3) There was only slight variation in the primary teachers' ability to anticipate children's choices of seatmates, playmates, or workmates.

(4) Intermediate grade teachers were least able to anticipate children's choices of seatmates.

(5) Intermediate grade teachers were best able to anticipate children's choices of playmates, and did only slightly less well on workmate choices.

(6) Intermediate grade teachers showed comparatively wide variations in ability to predict, being far more able to anticipate playmate choices than seatmate choices.

When the estimates of the six most perceptive teachers in the school were compared with the seven least perceptive teachers, differences in the choices of playmates, workmates, and seatmates were evidenced.

On the question concerning the choice of playmates and seatmates, the six most perceptive teachers rated as most popular those children who had lower intelligence quotients than the children whom the class members had chosen. The non-perceptive teachers tended to choose children with higher intelligence quotients than those chosen by class members.

In terms of workmates, the perceptive teachers as a group chose children who were neither more nor less intelligent than the children chosen by their class members. The non-perceptive teachers, however, selected children whose intelligence quotients were higher than those of children chosen by their peers.

Hoffman et al. (12, p. 162) concluded that:

> ...the less perceptive teacher chooses children on the basis of intelligence in all three categories.... The perceptive teacher, on the other hand, is aware of social realities and is thus more capable of judging children's choices, even though these might be different from his own.

Studies Relating to Regional (Area) Media Centers

The concept of the regional media center is relatively new. Media centers which are associated with the local school district or a single county are much more common throughout the United States. Regional media centers usually consist of multiple county school systems and function for the mutual benfit of all the local schools within the multiple county region. The support of the regional centers may come from a combination of local, state, and federal funds. The regional centers often include advisory, consultive and informative services, technical processing, supplementary and special collections of resources, and a varied program of activities. One of the services frequently provided is review and examination of collections of resources, which have been purchased for the use of both the larger and the smaller districts within the region. Some regional centers produce and provide educational radio and television programming and serve as centers for computerized instruction, remote access materials, mobile units, or other related functions. In-service

education for teachers and media specialists is a very important aspect of their services.

For a very small school system, the regional media center must be a substitute for the local system media center; for larger districts, it is supplemental and a source for some services which only the largest systems can supply for their own schools.

Petersen (24) conducted a study in 1969 which was concerned with the development of evaluative criteria for the educational media services provided local school districts by the Area Media Centers of Nebraska. His purpose was to develop criteria which would be suitable for this intermediate service unit. The evaluative criteria developed were intended to provide administrators and media specialists with useful information when planning new activities, as well as a useful measuring device for the on-going evaluation of area media center activities.

Petersen was concerned with the collection of criteria for the development of his instrument. He solicited the comments of four area media directors in the states of Nebraska and Iowa. The evaluative criteria which resulted were subjected to a panel of experts and further refined for selected criteria. The final list of criteria was utilized in the construction of his evaluative instrument.

Petersen field tested his instrument in two Nebraska Area Media Centers and two Iowa Regional Educational Media Centers. The personal interview technique was used in data collection, with responses being solicited from the directors or their representatives. Aside from comments, criticisms, and other solicited responses, the primary purpose

of the interviews, Petersen states (24, p. 71), was to determine answers to the following three basic questions related to the self-evaluation instrument:

1) Was the five to zero scale of quality indicators preferable to a multiple response check list?

2) Was the content of activity guidelines comprehensive?

3) What was the opinion of the evaluator as to the value of the self-evaluative instrument?

Petersen (24, p. 82-84) drew the following conclusions from his study:

1. The literature revealed activities carried on in area media centers in the United States which were related specifically to responsibilities particular to certain regions or states. A list of specific activities could not apply to all area media centers.

2. With the many variables found in the activities of the area media centers, difficulty was experienced in defining specific functions. To be too definitive would mean limiting services or activities successfully being carried out by some service units. To be too general in attempting to define services or activities lessens the value of the criteria used.

3. The evaluative criteria selected proved to be complete and to adequately define the activities of the area media center.

4. The self-evaluation device, which featured a numerical rating scale, was desirable. By being able to differentiate in terms of quality indicators, the graphic profile could be more easily understood, especially if used with boards of education, lay groups, or other non-profes-

sional persons.

5. The self-evaluation instrument was comprehensive in meeting the needs of an evaluator.

6. The self-evaluation instrument was useful.

7. The area media center supplements and does not supplant local media effort. The local schools must actively strive to improve their media programs. A total media program should provide students and teachers with maximum utilization of learning resources.

The Iowa Department of Public Instruction has conducted two studies which warrant mention in this chapter. The first study to be discussed is "A Pilot Evaluation" (15) of the regional educational media centers. The second study involves a report of a study of "The Operations and Costs of the Instructional Materials Centers in Iowa" (20). Both of these studies have been conducted by the Department of Public Instruction and are concerned directly with the regional educational media centers in Iowa.

"ESEA Title II in Iowa : A Pilot Evaluation" (15) was conducted for the purpose of examining practices of the regional media centers throughout the state of Iowa, to evaluate their effectiveness, and to determine changes which might be needed. It was hoped that the results of this survey might be beneficial in making future decisions regarding the regional educational media centers in Iowa, particularly in regard to factors which were concerned with obtaining local and/or state funds for further support of the centers.

The sampling procedures for this study involved the use of two ques-

tionnaires which were used to obtain samples from four separate organizational levels of the elementary and secondary school in Iowa. In the initial planning of this evaluation, it was expected that the sample would include educators from all sixteen regions of the state. Due to the lack of funds and administrative staff, a pilot evalution of four of the sixteen areas was made.

The samples were selected from a stratified list of the sixteen areas according to total public and non-public school enrollment. The sixteen areas were organized into four groups, then one sample was selected at random from each of these stratified groups. The centers selected for study were Area IX - Davenport, Area XIII - Council Bluffs, Area II - Mason City, and Area III - Emmetsburg.

It was determined that the sampling within each of the four selected regions would include all county superintendents, all district superintendents, fifteen percent (15%) of the K-6 public and non-public school teachers and principals, and fifteen percent (15%) of the secondary public and non-public school teachers and principals. All of the participants in this evaluation were selected at random. All questionnaires were distributed by the U. S. Mail and routed to County Superintendents and District Superinterdents.

Approximately 75 percent (75%) return was received from the classroom teacher questionnaire (15, p. 18). A due date was set for returning the questionnaires and no follow-up letters were sent.

The Iowa Department of Public Instruction (15, p. 65-67) summarized its findings by comparing the percentage of classroom teachers who had

used instructional media and services (users of media) and those classroom teachers who had not used educational media and services (non-users).

Some of the specific findings of this study are as follows:

1. A greater percentage of users have visited the centers than non-users.

2. A slightly greater percentage of users reported the availability of print catalogs.

3. A slightly greater percentage of users reported the availability of non-print catalogs.

4. A significantly larger percentage of users reported that they had been involved in recommending, suggesting, or selecting of materials to be purchased for the centers.

5. Both the users and non-users of the materials from the regional centers show a strong need for in-service workshops which might be sponsored by the regional educational media center located in their area.

6. In areas where workshops have been planned and implemented, a greater percentage of users of the materials have participated in these workshops.

7. Approximately the same percentage of users and non-users reported that they had taken a college credit course in media.

8. A significantly smaller percentage of the teachers felt that the administrators had encouraged them to use the centers than did the administrators themselves.

The second Iowa Department of Public Instruction report to be mentioned is entitled, "Study of the Operations and Costs of the Instructional

Materials Centers in Iowa" (20, p. 2). The stated purposes of this study were: (1) to gather information which would provide for an over-view of each of the sixteen regional educational media centers; (2) to provide the details needed to make comparisons of operations and costs of the sixteen regional educational media centers; and (3) to gain some understanding of the total effort being made in the state through Title II and local funding.

The questionnaire utilized in this study was prepared by a committee of four individuals from four different regional centers. The committee developed a suggested questionnaire which was submitted for the consideration of regional educational media staff members and Title II directors. Several suggestions at a state-wide meeting in Dubuque, Iowa, were incorporated into the questionnaire and a final combination of these was printed.

The questionnaire was divided into the major categories of area data, facilities - space, facilities - equipment, circulation - materials, circulation - inventory, processing and cataloging, personnel, expenditures, and receipts. Multiple questions were asked under each major category. Some of the questions required a one-word answer, while others required a complete paragraph response.

The questionnaire was mailed to the sixteen regional educational media centers to be completed by the area Title II coordinator (in many cases this would be the director) of the sixteen individual regional media centers. Copies of these individually completed questionnaires made up the major part of the report.

Some of the summary table conclusions (20, p. 11-21) which are germane to this specific study as interpreted by the writer were:

1. The certified staff members for all regional educational media centers in 1968-69 consisted of 9 full-time and 5 part-time coordinators, 4 full-time and 3 part-time librarians, 3 full-time audiovisual directors, and 3 full-time and 2 part-time individuals who indicated other types of certification.

2. A total of one hundred forty-four non-certified staff members were employed by all of the regional educational media centers in Iowa.

3. Fifteen of the sixteen regional centers indicated that they provided their teachers with both book and film catalogs.

4. A catalog was made available to each teacher at five of the centers.

5. Eight of the regional centers were providing their own delivery service.

6. During 1968-69, 630,000 books were circulated by all of the regional media centers. The circulation per book was 1.288 times with a circulation per pupil of 0.850.

7. In this time period, 255,663 films were circulated by the regional centers. The circulation per film was 11.637 times with a circulation per pupil of 0.345.

These conclusions appear to indicate (a) that the materials are well utilized from the individual regional center; (b) that the number of certified staff members should be increased; (c) that an effort should be made to provide each teacher in the region with a materials catalog; and

(d) that delivery services might be provided for a greater number of the regional educational media centers.

Stephens et al. (28) studies the educational media and services as a part of the study entitled, "The Multi-County Regional Educational Service Agency of Iowa." This study was requested by the Linn County Board of Education (Cedar Rapids). The study was made through a contract of the United States Office of Education through the Educational Research Division, College of Education, The University of Iowa.

The three basic procedures which were used in gathering information for this study were: (1) a survey and analysis of literature; (2) visitation to various county and intermediate units in Iowa and other states; and (3) the utilization of consultants from specific areas. Personal observations by means of extended visitations to intermediate units in fourteen states contributed to the basic data-gathering technique used.

The scope of this study extended beyond the scope of educational media and services to encompass the total instructional program for this multi-county system. Only the portion of the study which deals with the subject at hand will be considered here.

Stephens et al. (28, p. 560) stated the needs for media services in the following manner:

> It has been clearly shown that many local school districts are unable to adequately provide many necessary instructional programs and services. In many areas, the complexity of instruction required is beyond the human and financial resources of the local school district.
>
> Further, increased demands are being placed on school districts to provide more extensive and highly specialized instructional services designed to meet the needs of all children.

The investigation committee headed by Stephens (28, p. 560) made the following recommendations concerning the educational media center for this region:

1. Establish an educational media center which will offer the following programs and services to constituent local school districts:
   a. Film library services
   b. Closed-circuit television services
   c. Educational broadcasting services
   d. Professional library services
   e. Curriculum library services
   f. Production center for the development of slides, charts, maps, study prints, dioramas, models, fine art prints, and other instructional materials
   g. Specialized printing services
   h. Tape and record library services
   i. Specialized reference textbooks and reference materials
   j. Specialized library services
   k. Audiovisual equipment repair and loan services
   l. In-service programs for media specialists, classroom teachers, and administrators of local school districts
   m. Consultant services in educational media to local school districts

2. Cooperate with local school districts concerning the services to be offered and policies concerning their administration.

3. Establish policies concerning the nature and extent of services to be offered.

4. Establish policies and procedures for at-cost charges for those programs and services which are provided for some but not all districts, such as services of the production center, printing services, and audiovisual equipment repair services.

5. Disseminate printed materials concerning the services of the educational media center so that they are readily available to local school districts.

6. Make the services of the educational media center easily accessible to the personnel of local school districts. This will require that the center be open after normal hours.

7. Provide weekly or semi-weekly delivery service to local school districts for circulating materials.

8. Provide adequate physical facilities for the educational media center which promote the optimum utilization of the services of the center. This should include preview rooms, display areas, reading rooms, and large and small group conference rooms.

9. Adopt efficient and effective administrative procedures for the operation of the media center.

10. Encourage constituent local districts to appoint a media coordinator in each attendance center.

The Stephens' Committee (28, p. 562) made the following recommendations to the Linn County School Board in terms of long-range and short-range developments. The long-range developments as recommended by this committee were:

> ...that the programs and services previously identified be implemented as soon as possible. The anticipated professional staffing needs of the media center include a coordinator, an assistant coordinator, a specialist in educational television and broadcasting, a specialist in audiovisual services, a specialist in library science, and a specialist in production services.

The short-range developments as described by this committee were:

> Priority should be given to the strengthening and extension of the programs and services of the educational media center currently being administered by the Linn County Board of Education and financed under Title II, Elementary and Secondary Act of 1965. Close planning and coordination between this program and the pilot project in in-service education which is also administered by the same unit is essential.

Studies Relating to the Evaluation of Media and Services

One of the earliest attempts to evaluate media and services was a study done by Fulton (8, p. 2). His study consisted of a state-wide evaluation of the media programs in the state of Oklahoma. The stated purposes of his investigation were (1) to develop criteria by which data relative to the Oklahoma audiovisual program can be evaluated, and (2)

to evaluate selected aspects of the Oklahoma program in terms of those criteria. In addition, the study proposed to accomplish the following secondary purposes: (1) serve as a guide to those who might wish to evaluate other state-wide audiovisual programs, (2) suggest recommendations to the Oklahoma Legislature with respect to needed changes in the Oklahoma code regarding the state-wide audiovisual program, and (3) suggest recommendations to Oklahoma school leaders with respect to needed changes in the organization and administration of the Oklahoma audiovisual program.

The two methods principally employed in Fulton's investigation were the appraisal method and the use of the questionnaire. The direct appraisal method as used by Fulton consisted of developing criteria through the use of a jury or panel of experts. This method involved the selection of a jury of highly competent authorities in the audiovisual field and the formulation of a list of tentative criteria. The tentative criteria were then presented to the jury for recommendations. These suggestions and recommendations were then condensed into a list of evaluative criteria.

The final list of criteria was utilized as the basis for a questionnaire. Specific questions in the questionnaire were derived from each criterion. A checklist type of questionnaire was used to collect the data desired. Local school administrators and county administrators of the state of Oklahoma were selected at random to complete the questionnaire.

Fulton (8, p. 172) concluded from his study that:

> ...through the use of a nation-wide jury of experts, it is possible to develop reasonably adequate criteria for the evaluation of the Oklahoma audiovisual program; that such criteria might be useful as a guide in evaluating other state-wide audiovisual programs; and that the correction of deficiencies in the weak aspects of the Oklahoma program

would facilitate the administrative effectiveness of the program.

King (19) also made an intensive study of the educational media system in the state of Oklahoma. His study dealt with teacher utilization of educational media as it is related to the educational media program in Oklahoma. The problem as stated by King (19, p. 3) was "to evaluate the educational media programs in selected public school systems of Oklahoma to determine if there was a relationship between teacher utilization of selected educational media and the level of sophistication of the educational media program."

His (19, p. 11-12) approach to the problem included these steps: (1) to revise and validate Fulton's checklist for evaluation of educational media programs, (2) to revise and validate Totten and Fulton's checklist for evaluating the use of educational media, (3) to administer to a select population of Oklahoma public schools an Evaluative Checklist for Self-Evaluating an Educational Media Program in School Systems, (4) to administer to a selective population of Oklahoma public school teachers an Evaluative Checklist for Evaluating the Use of Educational Media, and (5) to analyze and evaluate the results of the checklist to determine the status of educational media utilization in teaching in the Oklahoma public schools in relation to established criteria.

Superintendents from districts which contained both elementary and secondary schools were selected from each of the 460 public high school districts. A random sample of teachers within these districts was selected as the other group of individuals in this study.

The sample was stratified according to enrollment size, and samples

of the teachers were chosen on a random basis. Each superintendent from the 460 districts was asked to respond to the questionnaires. In the schools having an enrollment of 999 students or less, 49% of the schools responded; in the schools having an enrollment of 1,000 to 4,999, 70% of the schools responded; in the schools with student populations of 5,000 to 9,999, 100%, or all of the schools responded; in the schools with student populations of 10,000 to 19,999, 100%, or all of the schools responded.

With respect to teacher utilization of educational media in Oklahoma, King (19, p. 156-157) was able to draw the following conclusions:

1. Educational media programs in the Oklahoma public schools were more effective when the administration and faculty were committed to the provision and the use of a wide variety of educational media and services.

2. The Oklahoma public schools did not appear to produce a wide variety of instructional materials.

3. Only limited provisions were made in the Oklahoma public schools for staffing the educational media program. In most cases the educational media director was not given adequate time or staff to provide the degree of media services needed within the schools.

4. Larger school systems in Oklahoma appeared to be more adequately equipped in their media program than the smaller school systems.

5. In-service education in the use of educational media was generally not provided in schools with enrollments of less than 5,000.

6. Opaque materials were not generally used in the Oklahoma public schools with enrollments of 10,000 or more.

7. The Oklahoma public schools did not generally use slides in instruction in any of the enrollment size categories.

8. The use of silent cartridge films for instruction appeared generally weak in all of the enrollment size categories in

the Oklahoma public schools.

9. The data indicated that a positive relationship exists between well established educational media programs and teacher utilization of educational media in the Oklahoma public schools as noted.

King (19, p. 158-160) made the following recommendations:

1. That local school systems provide for periodic self-evaluation of their educational media programs on a definitely planned basis.

2. That the school administration and faculty work in closer cooperation with the educational media staff to integrate all facets of educational media into the school's instructional program.

3. That in-service education in educational utilization be provided for teachers in all schools.

4. That pre-service teacher preparation programs be strengthened by requiring all prospective teachers to take a course in educational media methods and materials or by including educational media experiences in the teacher education sequence course.

5. That improvements be made in the procedures used to locate and distribute educational media in the Oklahoma public schools.

6. That physical facilities which complement the use of a wide range of educational media be provided in all Oklahoma public schools.

7. That substantial increases be made in the number of qualified media personnel assigned as directors and coordinators in the Oklahoma public schools.

A second study directed by Fulton (9) is worthy of mention in this chapter. This study was performed in pursuant to a contract with the United States Office of Education, Department of Health, Education, and Welfare under the provisions of Title VII Public Law 85-864.

A proposal was submitted to the U.S. Office of Education for the purpose of developing criteria and instruments which might be used by local

school administrators to assess the value of their educational media programs. This proposal was contracted and funded through the University of Oklahoma (Norman). The objective of this contract was to develop and validate one or more instruments for the evaluation of educational media programs which could be self-administered. It was hoped that these instruments would yield the necessary information for determining the functional status of educational media programs in elementary and secondary schools of all sizes and in colleges and multi-purpose institutions of higher education.

As a basis for this study, Fulton (9) developed some guidelines or criteria pertaining to those elements thought to be common to all educational media programs. The development of this criteria involved two steps. One, a complete review of literature, was made in an attempt to identify those criteria which are most desirable for educational media. The second step involved the use of a panel of consultants or experts to develop other pertinent criteria. The twelve consultants utilized in this study were expert practitioners in the area of educational media and represented all geographic areas of the United States. These consultants were asked to formulate some preliminary criteria. The project staff then developed a tentative list of criteria and a tentative draft of a self-evaluative checklist. The tentative draft of these documents was then circulated to the consultants for criticism and suggestions. The list of criteria and the self-evaluative checklist were then revised for testing.

The revised draft of the self-evaluative checklist was pilot tested in six school systems in separate geographic regions and nine colleges and

universities located throughout the United States. Each pilot test was administered by a member of the project staff. This system allowed the staff member to identify unclear items and to clarify procedural problems in administering the instrument.

The instrument was again revised into what was thought to be a fairly valid instrument for evaluating an educational media program. Differences due to terminology peculiar to school systems and higher education institutions made it necessary to develop two forms of the self-evaluation instrument.

The self-evaluative checklist, the comprehensive list of criteria, and the comprehensive checksheets were mailed to approximately 200 schools and institutions of higher education. All tests were self-administered and one of the two copies sent was requested to be returned.

Fulton's (9, p. 92) self-evaluation instruments indicated (1) that the instrument appears to be a valid instrument and is usable as a self-evaluating instrument, and (2) that it is possible for a local school administrator to evaluate his own program and determine the strong and weak points. It is anticipated that the self-administered nature of the instrument will motivate the administrator to improve his educational media program.

Other Studies of Regional Media Centers

Ronald Ashby (3, p. 12) reported in an article entitled "Why - What - How" that there are many good reasons for having regional media centers. He goes on to state these reasons as:

Probably the most valid justification is that we no longer can

> be everything to everybody. The majority of school districts are too small to finance a complete and comprehensive media program. Certain phrases are extremely costly and should be financed cooperatively by a variety of school districts; thus making available to each district an expensive program at a fraction of its total cost.

Ashby (3, p. 12) briefly discussed regional centers in New York state. The remainder of his discussion was centered around the county media system that exists in the state of Oregon. His discussion of these two systems of regional instructional media centers (IMC's) however, brought out one point that is germane to the topic under consideration. He stated:

> The product of all media programs is service - service to boys and girls, teachers and administrators.... The orientation for all regional media programs must revolve around efficient, effective, and economic service. The IMC's continued existence depends on how it fulfills its service obligation.

The Washington County Oregon Intermediate Education District, where Ashby is the Director of the Instructional Media Center, has divided its media program into four major areas. These were described as (1) materials, (2) supportive services, (3) in-service, and (4) local production. A more thorough explanation of these specific services followed in his discussion.

Ashby (3, p. 12) described the regional organizational level of media centers in Oregon in this manner:

> The commitment at the regional level is to the most expensive, more specialized and more technical materials and services. The materials basically consist of 16mm films, expensive models, expensive kits, etc. Services include high quality production of unique materials and production of non-copyrighted audio and visual items, a delivery service, equipment repair, cooperative selection and buying of audio-visual equipment, repair, building design, systems design and the stocking and sale of commonly used consumable media items.

Summary

Most of the studies surveyed have sought to produce evaluative instruments for media centers, to intensively study teacher perceptions, or to determine usage of specific media centers. None of these approaches appeared to be desirable for the study. It was the feeling of the investigator that a study which was concerned with teacher perceptions and the educational media and services might be approached through the perceptions of the teachers who use the regional educational media centers.

METHOD OF PROCEDURE

Introduction

Generally, it would be most desirable to seek the perceptions of all elementary and secondary teachers in the state of Iowa. This was financially impractical with the investigation. It was determined through personal visitation and discussions with regional educational media personnel that elementary classroom teachers might take the opportunity to utilize greater quantities of media and services from the regional educational media centers than teachers of a single subject. It was therefore determined that the data for the study should be drawn from public elementary classroom teachers who (a) have utilized media and/or services from their regional educational media center, (b) are teaching in a self-contained classroom, and (c) teach the subjects of science, social sciences, mathematics, and language arts.

Determining the Scope of the Study

During the period of time in which the problem of the study was being defined and designed, an extensive survey of educational media and services was conducted. Interviews with directors of regional educational media centers and staff members of the Iowa Department of Public Instruction were made by the investigator. Correspondence and discussions with other investigators on the topics of evaluation of educational media and services served as a guide for the direction of the study. A search of the investigations of the previous ten years concerning educational media and services was accomplished with the aid of standard reference works.

A number of approaches in studying the perceptions of elementary classroom teachers concerning the educational media and services of the regional educational media centers in Iowa seemed possible. A state-wide study of the perceptions of elementary classroom teachers in all regional educational media centers was designed to provide for generalizations to public elementary classroom teachers throughout Iowa.

Since the 1970-71 Iowa Educational Directory (16), which for many years listed individual teachers, now lists only elementary attendance centers and the name of their principal by school district, it was decided that the first correspondence should be with the elementary principals to ask the cooperation of the elementary classroom teachers under their supervision. Each principal was asked to inquire of his elementary teachers those who would cooperate in a study of this type.

It was the feeling of the investigator that regional educational media center personnel should be completely informed at all stages of the investigation so as to insure that there would be no misunderstandings of techniques used or questions asked. To accomplish these ends, it appeared that a presentation of the objectives and anticipated procedures of the study to a state-wide meeting of regional educational media center personnel followed by a letter soliciting their cooperation was desirable. Such a presentation was made at a state-wide meeting in Des Moines in April 1971. It was hoped that this cooperative effort would encourage the participation of elementary classroom teachers in the study.

The questionnaire was the type of instrument which seemed most expedient in measuring teacher perceptions of educational media and services provided by the regional educational media centers. The number of teachers participating as indicated by elementary principals determined the number of questionnaires to be sent. The total number of questionnaires to be sent into a specific region was predetermined by the investigator.

The Hypotheses

The hypotheses in this study were formulated to investigate perceptions of elementary classroom teachers toward educational media and services of the regional educational media centers in Iowa. The hypotheses formulated were:

1. There are no significant differences in group means of elementary classroom teachers classified by teaching assignment regarding their perceptions of the characteristics of books used in science, social sciences, mathematics, and language arts which have been obtained from the regional educational media centers in the state of Iowa.
2. There are no significant differences in group means of elementary classroom teachers classified by teaching assignment regarding their perceptions of the characteristics of periodicals used in science, social sciences, mathematics, and language arts which have been obtained from the regional educational media centers in the state of Iowa.

3. There are no significant differences in group means of elementary classroom teachers classified by teaching assignment regarding their perceptions of the characteristics of films used in science, social sciences, mathematics, and language arts which have been obtained from the regional educational media centers in the state of Iowa.
4. There are no significant differences in group means of elementary classroom teachers classified by teaching assignment regarding their perceptions of the characteristics of filmstrips used in science, social sciences, mathematics, and language arts which have been obtained from the regional educational media centers in the state of Iowa.
5. There are no significant differences in group means of elementary classroom teachers classified by teaching assignment regarding their perceptions of the characteristics of slide sets used in science, social sciences, mathematics, and language arts which have been obtained from the regional educational media centers in the state of Iowa.
6. There are no significant differences in group means of elementary classroom teachers classified by teaching assignment regarding their perceptions of the characteristics of disc recordings used in science, social sciences, mathematics, and language arts which have been obtained from the regional educational media centers in the state of Iowa.
7. There are no significant differences in group means of elementary

classroom teachers classified by teaching assignment regarding their perceptions of the characteristics of tape recordings used in science, social sciences, mathematics, and language arts which have been obtained from the regional educational media centers in the state of Iowa.

8. There are no significant differences in group means of elementary classroom teachers classified by teaching assignment regarding their perceptions of the characteristics of transparencies used in science, social sciences, mathematics, and language arts which have been obtained from the regional educational media centers in the state of Iowa.

9. There are no significant differences in group means of elementary classroom teachers classified by teaching assignment regarding their perceptions of the characteristics of study prints used in science, social sciences, mathematics, and language arts which have been obtained from the regional educational media centers in the state of Iowa.

10. There are no significant differences in group means of elementary classroom teachers classified by teaching assignment regarding their perceptions of the characteristics of multi-media kits used in science, social sciences, mathematics, and language arts which have been obtained from the regional educational media centers in the state of Iowa.

11. There are no significant differences in group means of elementary classroom teachers classified by teaching assignment regarding

their perceptions of the characteristics of realia used in science, social sciences, mathematics, and language arts which have been obtained from the regional educational media centers in the state of Iowa.

The Instrument

The instrument for the study was a two-part questionnaire (Appendix A). Part A was designed to collect data concerning the characteristics of elementary classroom teachers. Part B of the questionnaire was designed to identify specific perceptions concerning media and services and was to be completed by those individuals who had met the three criteria mentioned on page 1 which included: (1) have used materials and/or services from the regional (area) media center, (2) teach a single grade level in a self-contained classroom, and (3) teach the subjects of science, the social sciences, mathematics, and language arts.

Questions 1 through 6 were designed to record these characteristics of elementary classroom teachers: degree attainment, media training, sex, teaching responsibilities, similar tenure, and the availability of a full-time media director. Question 7 was designed to determine teacher perceptions regarding the accessibility of educational media catalogs. Question 8 was designed to determine the present needs for specific types of media. Questions 9, 9a, 9b, and 9c were designed to determine those teacher perceptions of materials characteristics (relevance, sufficiency, variety, quality, timeliness, and physical condition) which are presently being provided by the regional educational media centers. Question 10 was designed to determine the quality of materials produced by the regional ed-

ucational media centers. Question 11 was designed to determine the most desirable interval of media delivery from the regional educational media centers. Question 12 was designed to determine the perception of elementary classroom teachers regarding the system of delivery from the regional educational media centers. Question 13 was designed to determine the perceptions of elementary classroom teachers regarding their need(s) for in-service programs sponsored by the regional educational media centers. Question 14 was designed to determine the perceptions of elementary classroom teachers regarding the most effective means of providing them with in-service information.

It was previously determined that the only questionnaires which would be used in the investigation would be those of individual elementary classroom teachers completing both Parts A and B of this instrument.

The Sample

The Iowa Department of Public Instruction lists four hundred fifty-three (453) public school districts. The state of Iowa is divided into sixteen regional educational media centers (see Illustration 2). All elementary school attendance centers within Iowa are offered the services of one of these regional media centers.

It was decided at the beginning of the investigation that the eligibility of participating elementary classroom teachers should be limited to those individuals who (1) have used materials and/or services from a regional educational media center, (2) teach a single grade level in a self-contained elementary classroom, and (3) teach the subjects of science,

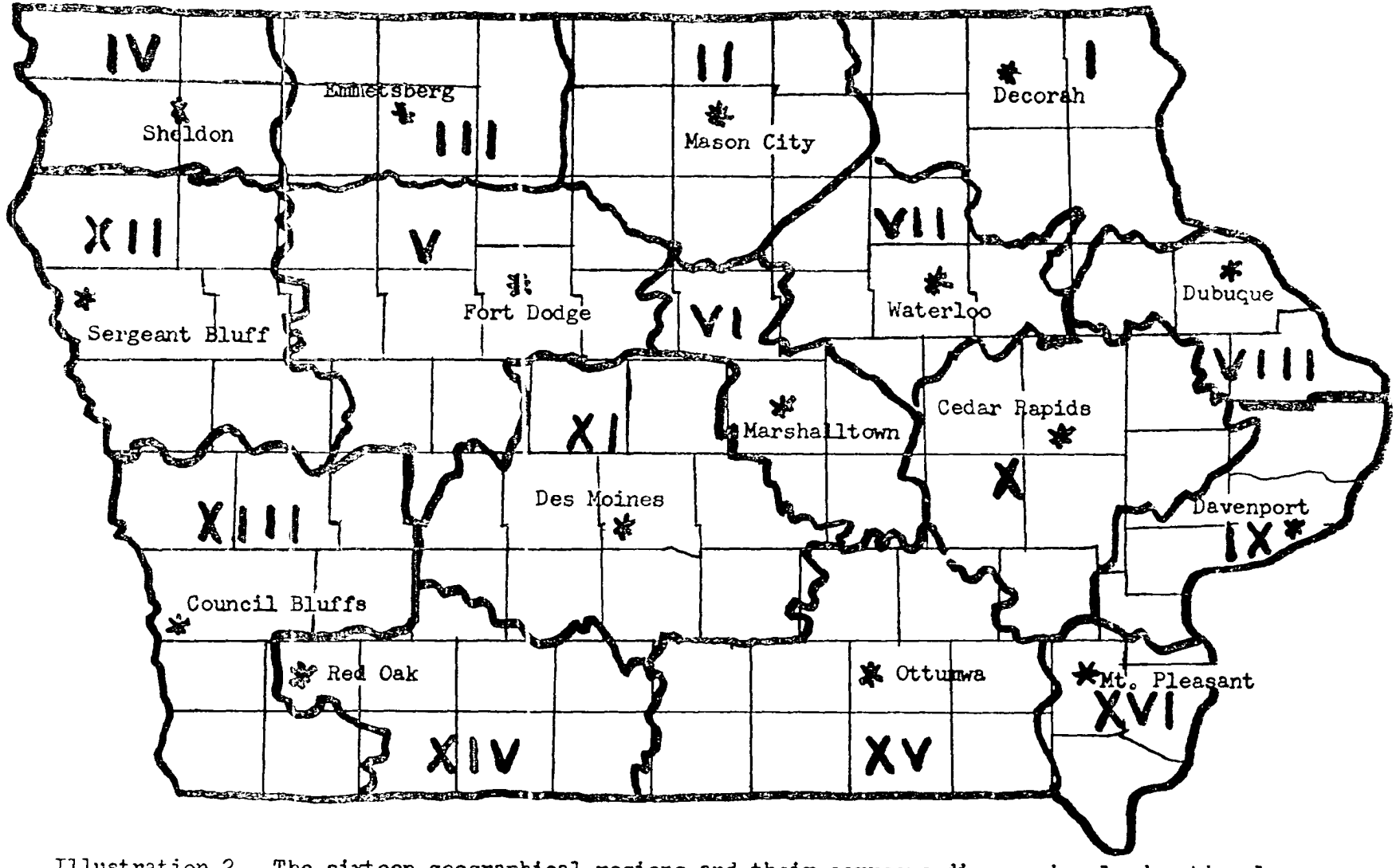

Illustration 2. The sixteen geographical regions and their corresponding regional educational media centers in Iowa

social sciences, mathematics, and language arts. The investigator determined that it would be desirable to have a minimum sample of 1,000 teacher questionnaires returned. This number would provide for sufficient precision in the estimation of the population parameters included in the hypoth eses. A recent survey of elementary and secondary teachers by the Iowa Department of Public Instruction (15) regarding the evaluation of media and services provided by four of the sixteen regional educational media centers in Iowa achieved a response rate of approximately 75 per cent; this figure was used in estimating the number of sample teachers needed (1,333) to yield 1,000 completed questionnaires.

The sampling design which was utilized included a stratification of all school districts in Iowa by geographical region. An approximate number of teachers to be selected within each region was determined by allocating the 1,333 sample teachers proportional to the total number of elementary classroom teachers within the region (note Table 2). The mean number of elementary classroom teachers per attendance center within each region was then calculated. The number of attendance centers to be sampled was determined by dividing the approximate number of sample teachers by the mean number of teachers per attendance center and rounding to the next largest integer.

The sample attendance centers were selected by listing the school districts within each region in order from largest to smallest by total pupil enrollment. School districts were then sampled within each region in a systematic manner, the number of districts selected being equal to the number of sample attendance centers desired. One attendance center

Table 2. Sampling design by regional educational media centers in Iowa

Region	Number of School Districts	Elementary Teachers		Approximate Number of Sample Teachers	Mean Number of Elementary Teachers per Attendance Center	Preliminary Number of Sample Attendance Centers
		Number	Proportion			
1	22	625	.040	53	15	4
2	29	760	.048	64	12	6
3	28	513	.033	44	11	4
4	19	354	.023	31	13	3
5	51	1,065	.068	90	10	9
6	22	608	.039	52	10	6
7	26	1,113	.071	96	14	7
8	11	772	.049	65	16	5
9	19	1,395	.089	119	15	8
10	40	1,819	.116	154	13	12
11	58	2,769	.177	236	14	17
12	32	956	.061	81	10	9
13	35	1,043	.066	88	10	9
14	22	451	.029	39	9	5
15	26	849	.054	72	9	8
16	13	580	.037	49	10	5
Totals	453	15,672	1.000	1,333		117

from each sample school district was then selected at random.

The names of the elementary principals of each sample attendance center were obtained from the "Iowa Educational Directory" (16). A letter of inquiry with a return postal card was sent to the principal of the selected attendance center requesting him to take a poll of his elementary classroom teachers to determine whether or not they would cooperate in the study. He was asked to indicate on the return postal card the number of teachers willing to participate. If the principal declined to cooperate, an attendance center within another school district was randomly selected from the region. After receipt of the principals' responses, the total number of teachers within each region willing to participate was obtained. If the total number was less than the desired number indicated in a region, additional attendance centers were selected until the number of cooperating teachers was equal to or greater than the desired number of sample teachers.

Collection of Data

A postal card was included in the introductory letter to indicate the number of teachers who would participate in the study. Each elementary school principal was requested to make a reply within two weeks if his school wished to participate. Those schools which elected to participate in the study were sent material immediately after the return of the postal card.

The elementary principal was asked to administer, collect, and return the questionnaires that were completed by his elementary teachers. The principal was requested to return the questionnaires within two weeks after receiving them.

The collection period began April 1, 1971, and was terminated June 1, 1971.

Processing the Data

The distribution of elementary classroom teachers who responded is presented in Table 3. All data have been reported as to the respective geographic regional location. The sample is represented by the final number of sample attendance centers (school districts), the number of cooperating teachers as indicated by principals, the number and per cent of questionnaires returned, and the number and per cent of usable questionnaires.

All data collected were coded and transferred to data cards for computer tabulation and analysis. All programming and computer processing were done at the Winona State College Data Processing Center.

All data were derived from the responses of the 1,047 elementary classroom teachers who had met all criteria for participation. Hypotheses of equality of mean ratings of materials characteristics by teachers at the various elementary grade levels were tested by a single-classification analysis of variance. Popham (25, p. 176) comments upon the advantages of this technique:

> Single-classification analysis of variance provides the researcher with a technique for simultaneously testing whether means of two or more groups are significantly different. This statistical model capitalizes on the integral relationship between the mean and the variance so that, by analyzing variances of several groups, conclusions can be drawn regarding the similarity of the means of these groups.

The analysis of variance model utilized in the study was

$$Y_{ij} = \mu + A_i + \varepsilon_{ij}$$

Table 3. Distribution of respondents by regional educational media centers in Iowa

Region	Final Number of Sample Attendance Centers (School Districts)	Number of Cooperating Teachers as Indicated by Principals	Questionnaires Returned		Usable Questionnaires	
			N	%	N	%
1	3	52	47	90.4	36	76.6
2	8	119	105	88.2	83	79.1
3	3	51	39	76.5	34	87.2
4	4	69	53	76.8	41	77.4
5	10	122	87	71.3	69	79.3
6	4	70	48	68.6	46	95.8
7	7	105	94	89.5	82	87.2
8	5	54	51	94.4	49	96.1
9	7	106	101	95.3	85	84.2
10	15	202	156	77.2	115	73.7
11	14	272	198	72.8	167	84.3
12	4	68	61	89.7	56	91.8
13	8	103	84	81.6	67	79.8
14	4	42	30	71.4	28	93.3
15	6	87	58	66.7	50	86.2
16	5	70	40	57.1	39	97.5
Totals	107	1,592	1,252	78.7	1,047	83.5

where y_{ij} = an individual teacher response

μ = a population mean

A_i = random effects of teacher grade level

ε_{ij} = random error

All hypotheses were tested at the .01 level of significance. In addition, the Newman-Keuls test was used to determine significant mean teacher perception differences between grade levels for each materials characteristic. This test allows the investigator to determine significant differences of all ordered pairs of group (grade level) means. Results of the Newman-Keuls tests are presented by ranking the group means from low to high and underlining those means which are concluded not to significantly differ from one another. Hence, any two means not underlined by a common line are significantly different. Winer (31, p. 85) suggests a major reason for utilizing the Newman-Keuls test over other possible procedures when probing the nature of the difference between treatment means. He states:

> The Newman-Keuls procedure....keeps the level of significance equal to α [alpha] for all ordered pairs, no matter how many steps apart the means may be.

Of the 169 attendance centers drawn in the sampling procedure, a total of 38 failed to respond to the letter of inquiry. The number of attendance centers that did respond was 131, including 110 "yes" responses and 21 "no" responses. Of the 110 responding "yes", 107 of these attendance centers returned questionnaires. The assumption was made that the non-responding attendance centers failed to differ in any significant respect from those that did respond.

A total of 1,592 questionnaires was sent to elementary principals of systematically selected attendance centers. The distribution of the questionnaires was left to the discretion of the individual elementary principals. The questionnaires which were returned numbered 1,252, representing a 78.7 per cent return. Of the 1,252 questionnaires returned, 1,047 (83.5 per cent) were usable.

It may be noted that a greater number of teacher questionnaires (1,592) were sent to elementary classroom teachers in this study than the number (1,333) originally anticipated. The response rate of 75 per cent utilized by the Iowa Department of Public Instruction (15) would have proven to be adequate in this study had all responding elementary classroom teacher questionnaires been usable. The investigator engaged in this study placed three specific criteria of elegibility on the participants, while the Iowa Department of Public Instruction study did not use such restrictions. This factor, more than any other single factor, has contributed to the need for a larger sample.

FINDINGS

Distribution of Elementary Classroom Teacher Characteristics

The findings presented in this section were derived specifically from the responses to questions 1 through 6 of the 1,047 usable questionnaires returned.

The sample included only two pre-kindergarten teachers; therefore it seemed logical that pre-kindergarten and kindergarten teachers should be combined into a single category. This category was labeled "kindergarten" and shall be considered as a single category throughout the remainder of the study.

The data for this portion of the study are presented in Tables 4 through 14. All percentages represent that quantity of one of the categories being considered.

Data presented in Table 4 list the highest educational degree attained by the elementary classroom teachers sampled. The greatest frequency of educational degree attainment, that of Bachelor's degree, included 720 teachers (68.8 per cent). There were also 276 teachers (26.4 per cent) who held no degree, and 51 teachers (4.9 per cent) with Master's degrees.

Table 4. The highest educational degree attained by the elementary classroom teachers sampled

Educational Degree	Teachers N	Teachers %
No Degree	276	26.4
Bachelor	720	68.8
Master	51	4.9
Totals	1047	100.0

Data presented in Table 5 describe the responses from elementary classroom teachers who indicated that they had taken an educational media course for college credit in the past five years. Of these teachers, 380 (36.3 per cent) indicated that they have had media training, and 667 (63.7 per cent) indicated that they have had no media training.

Table 5. Educational media training as indicated by the elementary classroom teachers sampled

Educational Media Training	Teachers N	Teachers %
Have Media Training	380	36.3
Have No Media Training	667	63.7
Totals	1047	100.0

Table 6 presents the sex distribution of the elementary classroom teachers sampled. The table data show that 990 (94.6 per cent) specified that they were female and 57 (5.4 per cent) indicated that they were male. These figures indicate that a much greater number of the teachers sampled were female.

Table 6. The sex distribution of the elementary classroom teachers sampled

Sex Distribution	Teachers N	Teachers %
Female	990	94.6
Male	57	5.4
Totals	1047	100.0

The range of educational teaching experience of the elementary classroom teachers, in Table 7, indicates that 148 (14.1 per cent) of the teachers have taught 1-3 years, 117 (11.2 per cent) have taught 4-6 years, 168 (16.1 per cent) have taught 7-9 years, and 614 (58.6 per cent) have taught 10 years or longer.

Table 7. Years of educational teaching experience of the elementary classroom teachers sampled

Educational Teaching Experience	Teachers N	Teachers %
1-3 years	148	14.1
4-6 years	117	11.2
7-9 years	168	16.1
10 years or longer	614	58.6
Totals	1047	100.0

Data in Table 8 indicate the grade assignment of the elementary classroom teachers sampled. This sample consisted of 2 (.2 per cent) pre-kindergarten teachers, 105 (10.0 per cent) kindergarten teachers, 167 (16.0 per cent) grade 1 teachers, 155 (14.7 per cent) grade 2 teachers, 183 (17.5 per cent) grade 3 teachers, 166 (15.9 per cent) grade 4 teachers, 141 (13.5 per cent) grade 5 teachers, and 128 (12.2 per cent) grade 6 teachers.

Table 8. Grade assignments of the elementary classroom teachers sampled

Grade Assignment	Teachers N	Teachers %
Pre-kindergarten	2	.2
Kindergarten	105	10.0
Grade 1	167	16.0
Grade 2	155	14.7
Grade 3	183	17.5
Grade 4	166	15.9
Grade 5	141	13.5
Grade 6	128	12.2
Totals	1047	100.0

The elementary classroom teachers were asked to indicate whether or not they have a full-time media director within their school district. Their responses are presented in Table 9. Of the teachers sampled, 563 (53.8 per cent) indicated that they have a media director, and 484 (46.2 per cent) indicated that they have no media director.

Table 9. Number of elementary classroom teachers indicating whether or not they have a full-time media director available

Media Director	Teachers N	Teachers %
Have Media Director	563	53.8
Have No Media Director	484	46.2
Totals	1047	100.0

In Table 10, the data are organized into variables based on the educational degree attained by teachers, compared with their educational media training. A total of 282 (39.2 per cent) indicated a Bachelor's degree and media training. It was found that 39 (76.5 per cent) had a Master's degree and no media training.

Table 10. Highest educational degree attained; by educational media training

Educational Degree	Have Media Training		Have No Media Training		Totals	
	N	%	N	%	N	%
No Degree	86	31.2	190	68.8	276	100.0
Bachelor	282	39.2	438	60.8	710	100.0
Master	12	23.5	39	76.5	51	100.0
Totals	380	36.3	667	63.7	1047	100.0

Data in Table 11 indicate the educational degree distribution of elementary classroom teachers, stratified by the specific grade assignment during the school year. The largest concentration of teachers within each grade assignment appears as 52 (33.6 per cent) grade 2 teachers with no degree, 94 (73.4 per cent) grade 6 teachers with Bachelor's degrees, and 11 (8.6 per cent) grade 6 teachers with Master's degrees.

Data in Table 12 indicate that of the female teachers sampled, 361 (36.5 per cent) have had media training and 629 (63.5 per cent) have had no training in media. Male teachers indicated that 19 (33.3 per cent)

Table 11. Highest degree attained; by grade assignment

Educational Degree	Kinder-garten		Grade 1		Grade 2		Grade 3		Grade 4		Grade 5		Grade 6		Totals	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
No Degree	28	26.2	48	28.7	52	33.6	48	26.2	45	27.1	32	22.7	23	18.0	276	26.4
Bachelor	72	67.3	113	67.7	98	63.2	130	71.1	113	68.1	100	70.9	94	73.4	720	68.8
Master	7	6.5	6	3.6	5	3.2	5	2.7	8	4.8	9	6.4	11	8.6	51	4.9
Totals	107	100.0	167	100.0	155	100.0	183	100.0	166	100.0	141	100.0	128	100.0	1047	100.0

have had media training and 38 (66.7 per cent) indicated that they have had no media training.

Table 12. Educational media training received by elementary classroom teachers; by sex

Sex	Have Media Training		Have No Media Training		Totals	
	N	%	N	%	N	%
Female	361	36.5	629	63.5	990	100.0
Male	19	33.3	38	66.7	57	100.0
Totals	380	36.3	667	63.7	1047	100.0

The recent influence of media training in teacher education programs is evidenced when educational media training is stratified by the number of years of educational experience. With 1-3 years of educational experience, approximately twice as many teachers have had media training as have had no media training. In the categories of educational experience of "4-6 years", "7-9 years", and "10 years or longer" the teachers evidence that approximately twice as many have had no media training as have had media training. This finding is indicative of the recent course offerings of media incorporated into college education sequences.

In Table 13, the media training of elementary classroom teachers has been stratified by specific grade assignments. The largest number of teachers having media training is represented by 64 (41.3 per cent) in grade 2, followed by 66 (39.5 per cent) in grade 1.

Table 13. Educational media training of elementary classroom teachers; by grade assignment

Grade Assignment	Have Media Training		Have No Media Training		Totals	
	N	%	N	%	N	%
Kindergarten	37	34.6	70	65.4	107	100.0
Grade 1	66	39.5	101	60.5	167	100.0
Grade 2	64	41.3	91	58.7	155	100.0
Grade 3	67	36.6	116	63.4	183	100.0
Grade 4	54	32.5	112	67.5	166	100.0
Grade 5	48	34.0	93	66.0	141	100.0
Grade 6	44	34.4	84	65.6	128	100.0
Totals	380	36.3	667	63.7	1047	100.0

Table 14 presents the distribution of elementary classroom teachers sampled as to the number of years of teaching experience, stratified in terms of their specific teaching assignments. The largest concentration of these teachers within the sample is to be found in teachers of grade 4 65.7 per cent) and grade 5 (63.2 per cent) having 10 years or longer experience. Noteworthy in this table are the larger percentages of teachers to be found at the extreme ends of the teaching experience category "7-9 years" which include 28 (26.2 per cent) kindergarten teachers and 27 (21.1 per cent) grade 6 teachers.

Table 14. Number of years teaching experience; by teaching assignment

Teaching Assignment	1-3 years		4-6 years		7-9 years		10 years or longer		Totals	
	N	%	N	%	N	%	N	%	N	%
Kindergarten	12	11.2	12	11.2	28	26.2	55	51.4	107	100.0
Grade 1	26	15.5	15	9.0	30	18.0	96	57.5	167	100.0
Grade 2	27	17.4	22	14.2	20	12.9	86	55.5	154	100.0
Grade 3	24	13.1	24	13.1	26	14.2	109	59.6	183	100.0
Grade 4	17	10.2	17	10.2	23	13.9	109	65.7	166	100.0
Grade 5	25	17.7	13	9.2	14	9.9	89	63.2	141	100.0
Grade 6	17	13.3	14	10.9	27	21.1	70	54.7	128	100.0
Totals	148	14.1	117	11.2	168	16.1	614	58.6	1047	100.0

Accessibility of Media Catalogs

The elementary classroom teachers sampled were asked to indicate whether or not they have access to catalogs or printed lists of materials made available from the regional educational media center located in their region. Of the teachers sampled, 98.9 per cent indicated that catalogs or printed lists were available to them.

Elementary Teacher Perceptions of Media

This portion of the findings describe the perceptions of educational media evidenced by the elementary classroom teachers who participated in the study. The data discussed in this section are the analysis of responses from questions 9, 9a, 9b, and 9c of the questionnaire (Appendix A).

In the instructions to the questionnaire for these questions the elementary classroom teachers were first asked whether or not they had used the specified type of media. They were also asked to rate the materials for each type of media as to their relevance, sufficiency, variety, quality, timeliness, and physical condition on the following 1 to 5 scale:

1 = Poor
2 = Below Average
3 = Average
4 = Very Good
5 = Excellent

For brevity, the materials characteristics for all media will be denoted as follows:

Rel = relevance to my curriculum and/or study
Suf = sufficiency (quantity of instructional materials available)
Var = variety (different types of instructional materials available)
Qual = quality of content of instructional materials
Time = timeliness (materials are up to date)
PC = physical condition

It was the decision of the investigator to use only the responses from those elementary classroom teachers who had both (1) circled "yes" to indicate the use of a specified type of media, and (2) ranked all materials characteristics for that type of media.

Within this chapter, the findings relating to questions 9, 9a, 9b, and 9c will be presented in tabular form in the order that corresponds to

the order of Hypotheses 1 through 11. In the tables which will follow, the group mean ratings ($\bar{X}$) located under each materials characteristic and across from each teaching assignment represents a number on the rating scale between 1 and 5 points. Example: A mean ($\bar{X}$) of 3.50 is an indication that the average rating by all teachers sampled was midway between 3 = average and 4 = very good. Corresponding to each mean rating is a sample standard deviation (s) associated with that mean ($\bar{X}$). The sample standard deviation (s) will provide an indication of how variable the individual teacher responses in the distribution are. Example: A standard deviation (s) of .94 indicates that the average teacher responses ranged .94 points above and below the stated mean. The numbers to be found in parentheses immediately under each grade assignment and located at the extreme left of the tables indicate the number of teachers who have used this type of media. This number of teachers indicates those who have rated each materials characteristic for that media. Example: Kindergarten (n = 50) indicates that 50 kindergarten teachers have used science books from the regional educational media center in their area and have rated that medium for relevance (Rel), sufficiency (Suf), variety (Var), quality (Qual), timeliness (Time), and physical condition (PC).

Table 15 presents data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of science books by teaching assignment. With respect to the relevance of science books, the greatest difference appears between a mean of 3.50 for kindergarten teachers and a mean of 3.78 for grade 5 teachers; in sufficiency of science books, the greatest difference appears between a mean of 3.24 for

Table 15. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of science books by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 50)	$\bar{X}$	3.50	3.24	3.14	3.46	3.46	3.62	3.40
	s	.94	.99	.94	.85	.88	.82	.92
Grade 1 (n = 95)	$\bar{X}$	3.56	3.35	3.35	3.50	3.52	3.57	3.47
	s	.75	.82	.94	.78	.81	.80	.82
Grade 2 (n = 93)	$\bar{X}$	3.61	3.56	3.46	3.65	3.57	3.83	3.61
	s	.67	.84	.90	.81	.81	.80	.81
Grade 3 (n = 117)	$\bar{X}$	3.74	3.48	3.44	3.72	3.66	3.86	3.65
	s	.86	.86	.98	.79	.90	.86	.89
Grade 4 (n = 109)	$\bar{X}$	3.76	3.56	3.53	3.83	3.77	4.14	3.77
	s	.72	.87	.95	.74	.97	.78	.87
Grade 5 (n = 90)	$\bar{X}$	3.78	3.66	3.57	3.72	3.67	3.81	3.70
	s	.77	.91	.87	.82	.86	.91	.86
Grade 6 (n = 91)	$\bar{X}$	3.75	3.57	3.44	3.60	3.66	3.74	3.63
	s	.74	.85	.88	.77	.80	.85	.82
Totals (n = 645)	$\bar{X}$	3.69	3.50	3.44	3.66	3.63	3.82	3.63
	s	.78	.88	.93	.80	.87	.85	.86
F value		1.60	1.96	1.49	2.28	1.20	4.73*	

*Indicates significance at the .01 level (This will be used in all subsequent tables).

kindergarten teachers and a mean of 3.66 for grade 5 teachers; in variety of science books, the greatest difference appears between a mean of 3.14 for kindergarten teachers and a mean of 3.57 for grade 5 teachers; in quality of science books, the greatest difference appears between a mean of 3.46 for kindergarten teachers and a mean of 3.83 for grade 4 teachers; in timeliness of science books, the greatest difference appears between a mean of 3.46 for kindergarten teachers and a mean of 3.77 for grade 4 teachers; and in physical condition of science books, the greatest difference appears between a mean of 3.57 for grade 1 teachers and a mean of 4.14 for grade 4 teachers.

The F value of 4.73 for physical condition of science books exceeded the tabled value of F at the .01 level of significance with a value of 2.83 for 6 (Between) and 638 (Within) degrees of freedom. All other materials characteristics for science books failed to exceed this table value; therefore, only the specific null hypothesis concerned with science books was rejected. Table 67, Appendix C, contains the results of the analysis of variance regarding science books.

Ordered Groups	1	K	6	5	2	3	4
Means	3.57	3.62	3.74	3.81	3.83	3.86	4.14
Comparisons							

When the Newman-Keuls test for all possible pairs of ordered means was made for the physical condition of science books, it was determined that means 3.57 for grade 1 teachers and 3.62 for kindergarten teachers do differ from the mean 4.14 for grade 4 teachers. It was determined that means 3.74 for grade 6 teachers, 3.81 for grade 5 teachers, 3.83 for grade 2 teachers, and 3.86 for grade 3 teachers do not differ from the means of

grade 1, kindergarten, or grade 4 teachers. It may be concluded, therefore, that grade 1 and kindergarten teachers perceive the physical condition of science books in a similar manner but do differ in their perceptions from teachers in grade 4.

Table 16 indicates data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of social sciences books by teaching assignment. With respect to the relevance of social sciences books, the greatest difference appears between a mean of 3.53 for grade 1 teachers and a mean of 3.91 for grade 5 teachers; in sufficiency of social sciences books, the greatest difference appears between a mean of 3.38 for grade 1 teachers and a mean of 3.78 for grade 6 teachers; in variety of social sciences books, the greatest difference appears between a mean of 3.28 for kindergarten teachers and a mean of 3.66 for grade 6 teachers; in quality of social sciences books, the greatest difference appears between a mean of 3.56 for grade 1 teachers and a mean of 3.82 for grade 5 teachers; in timeliness of social sciences books, the greatest difference appears between a mean of 3.54 for kindergarten teachers and a mean of 3.82 for grade 5 teachers; and in physical condition of social sciences books, the greatest difference appears between a mean of 3.66 for kindergarten teachers and a mean of 3.98 for grade 5 teachers.

For the hypotheses tested, none of the materials characteristics of social sciences books exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypotheses concerned with social sciences books.

Table 16. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of social sciences books by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 50)	$\bar{X}$	3.68	3.44	3.28	3.60	3.54	3.66	3.53
	s	.88	.78	.94	.75	.88	.82	.85
Grade 1 (n = 90)	$\bar{X}$	3.53	3.38	3.42	3.56	3.58	3.69	3.53
	s	.78	.77	.82	.72	.73	.81	.78
Grade 2 (n = 83)	$\bar{X}$	3.54	3.48	3.43	3.64	3.58	3.83	3.58
	s	.77	.84	.92	.77	.85	.88	.85
Grade 3 (n = 109)	$\bar{X}$	3.68	3.44	3.31	3.75	3.68	3.95	3.64
	s	.83	.94	.98	.87	.90	.84	.92
Grade 4 (n = 105)	$\bar{X}$	3.73	3.49	3.38	3.62	3.69	3.95	3.64
	s	.85	.87	.90	.86	.84	.92	.89
Grade 5 (n = 91)	$\bar{X}$	3.91	3.56	3.55	3.82	3.82	3.98	3.78
	s	.71	.89	.89	.75	.75	.71	.80
Grade 6 (n = 92)	$\bar{X}$	3.76	3.78	3.66	3.75	3.62	3.78	3.73
	s	.74	.81	.94	.85	.93	.91	.87
Totals (n = 620)	$\bar{X}$	3.70	3.51	3.44	3.68	3.65	3.85	3.64
	s	.80	.86	.92	.81	.85	.85	.86
F value		2.40	2.16	1.80	1.31	1.06	1.88	

Table 17 presents data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of mathematics books by teaching assignment. With respect to the relevance of mathematics books, the greatest difference appears between a mean of 3.51 for grade 4 teachers and a mean of 3.74 for grade 3 teachers; in sufficiency of mathematics books, the greatest difference appears between a mean of 3.23 for kindergarten teachers and a mean of 3.56 for grade 5 teachers; in variety of mathematics books, the greatest difference appears between a mean of 3.19 for kindergarten teachers and a mean of 3.60 for grade 3 teachers; in quality of mathematics books, the greatest difference appears between a mean of 3.55 for kindergarten teachers and a mean of 3.87 for grade 5 teachers; in timeliness of mathematics books, the greatest difference appears between a mean of 3.48 for grade 1 teachers and a mean of 3.85 for grade 5 teachers; and in physical condition of mathematics books, the greatest difference appears between a mean of 3.61 for grade 6 teachers and a mean of 4.03 for grade 2 teachers.

For the hypothesis tested, none of the materials characteristics of mathematics books exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with mathematics books.

Table 18 indicates data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of language arts books by teaching assignment. With respect to the relevance of language arts books, the greatest difference appears between a mean of 3.69 for grade 2 teachers and a mean of 3.91 for grade 3 teachers; in sufficiency

Table 17. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of mathematics books by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 31)	$\bar{X}$	3.71	3.23	3.19	3.55	3.61	3.74	3.51
	s	.73	.75	.59	.61	.61	.80	.72
Grade 1 (n = 40)	$\bar{X}$	3.55	3.38	3.23	3.60	3.48	3.73	3.49
	s	.67	.73	.85	.73	.74	.74	.76
Grade 2 (n = 37)	$\bar{X}$	3.60	3.51	3.38	3.76	3.76	4.03	3.67
	s	.59	.68	.85	.67	.82	.68	.75
Grade 3 (n = 42)	$\bar{X}$	3.74	3.52	3.60	3.81	3.76	3.83	3.71
	s	.62	1.01	1.07	.73	.84	.97	.89
Grade 4 (n = 43)	$\bar{X}$	3.51	3.47	3.23	3.65	3.67	3.77	3.55
	s	.69	.97	1.01	.83	.83	.96	.91
Grade 5 (n = 39)	$\bar{X}$	3.72	3.56	3.54	3.87	3.85	4.00	3.76
	s	.71	.90	.90	.76	.77	.85	.83
Grade 6 (n = 43)	$\bar{X}$	3.63	3.51	3.58	3.67	3.56	3.61	3.59
	s	.78	.90	.75	.86	.76	.87	.82
Totals (n = 275)	$\bar{X}$	3.63	3.46	3.40	3.71	3.67	3.81	3.61
	s	.69	.87	.90	.76	.78	.86	.83
F value		<1	<1	1.57	<1	1.08	1.24	

Table 18. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of language arts books by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 54)	$\bar{X}$	3.78	3.46	3.54	3.69	3.63	3.63	3.62
	s	.74	.71	.94	.79	.85	.87	.82
Grade 1 (n = 95)	$\bar{X}$	3.73	3.52	3.51	3.64	3.59	3.76	3.62
	s	.70	.82	.87	.72	.83	.80	.80
Grade 2 (n = 81)	$\bar{X}$	3.69	3.48	3.48	3.65	3.57	3.74	3.60
	s	.73	.79	.90	.76	.82	.87	.82
Grade 3 (n = 88)	$\bar{X}$	3.91	3.72	3.65	3.93	3.86	4.01	3.85
	s	.70	.83	.89	.69	.77	.79	.79
Grade 4 (n = 93)	$\bar{X}$	3.74	3.57	3.50	3.77	3.74	3.90	3.70
	s	.79	.85	.96	.74	.82	.80	.84
Grade 5 (n = 74)	$\bar{X}$	3.88	3.61	3.47	3.87	3.76	3.87	3.74
	s	.72	.97	.96	.64	.80	.86	.85
Grade 6 (n = 78)	$\bar{X}$	3.83	3.74	3.68	3.76	3.72	3.74	3.75
	s	.76	.82	.85	.77	.83	.79	.81
Totals (n = 563)	$\bar{X}$	3.79	3.59	3.55	3.76	3.70	3.82	3.70
	s	.74	.84	.91	.74	.82	.83	.82
F value		1.03	1.34	<1	1.85	1.40	1.77	

of language arts books, the greatest difference appears between a mean of 3.46 for kindergarten teachers and a mean of 3.74 for grade 6 teachers; in variety of language arts books, the greatest difference appears between a mean of 3.47 for grade 5 teachers and a mean of 3.68 for grade 6 teachers; in quality of language arts books, the greatest difference appears between a mean of 3.64 for grade 1 teachers and a mean of 3.93 for grade 3 teachers; in timeliness of language arts books, the greatest difference appears between a mean of 3.57 for grade 2 teachers and a mean of 3.86 for grade 3 teachers; and in physical condition of language arts books, the greatest difference appears between a mean of 3.63 for kindergarten teachers and a mean of 4.01 for grade 3 teachers.

For the hypothesis tested, none of the materials characteristics of language arts books exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with language arts books.

Table 19 presents data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of science periodicals by teaching assignment. With respect to the relevance of science periodicals, the greatest difference appears between a mean of 3.25 for kindergarten teachers and a mean of 3.71 for grade 4 teachers; in sufficiency of science periodicals, the greatest difference appears between a mean of 3.00 for kindergarten teachers and a mean of 3.53 for grade 3 teachers; in variety of science periodicals, the greatest difference appears between a mean of 3.06 for grade 6 teachers and a mean of 3.67 for grade 5 teachers; in quality of science periodicals, the greatest

Table 19. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of science periodicals by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 12)	$\bar{X}$	3.25	3.00	3.42	3.58	3.33	3.50	3.35
	s	1.09	1.41	1.38	1.32	1.43	1.38	1.36
Grade 1 (n = 20)	$\bar{X}$	3.50	3.30	3.25	3.55	3.40	3.40	3.40
	s	.81	.84	.99	.92	.97	1.02	.93
Grade 2 (n = 26)	$\bar{X}$	3.42	3.39	3.35	3.54	3.35	3.58	3.44
	s	.84	.88	1.14	1.18	1.17	1.18	1.08
Grade 3 (n = 30)	$\bar{X}$	3.43	3.53	3.50	3.63	3.83	3.90	3.64
	s	.67	.85	1.06	.84	1.00	.91	.91
Grade 4 (n = 34)	$\bar{X}$	3.71	3.44	3.41	3.80	3.79	3.94	3.68
	s	.89	.98	.97	.87	.87	.87	.93
Grade 5 (n = 21)	$\bar{X}$	3.67	3.24	3.67	3.81	3.67	3.91	3.66
	s	.99	1.02	.94	.91	.99	.97	.99
Grade 6 (n = 33)	$\bar{X}$	3.49	3.06	3.06	3.39	3.36	3.58	3.32
	s	.86	.98	1.15	.95	1.07	.89	1.01
Totals (n = 176)	$\bar{X}$	3.52	3.31	3.36	3.61	3.56	3.72	3.51
	s	.87	.99	1.09	.99	1.07	1.02	1.02
F value		<1	<1	<1	<1	1.16	1.15	

difference appears between a mean of 3.39 for grade 6 teachers and a mean of 3.81 for grade 5 teachers; in timeliness of science periodicals, the greatest difference appears between a mean of 3.33 for kindergarten teachers and a mean of 3.83 for grade 3 teachers; and in physical condition of science periodicals, the greatest difference appears between a mean of 3.40 for grade 1 teachers and a mean of 3.94 for grade 4 teachers.

For the hypothesis tested, none of the materials characteristics of science periodicals exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with science periodicals.

Table 20 indicates data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of social sciencies periodicals by teaching assignment. With respect to the relevance of social sciences periodicals, the greatest difference appears between a mean of 3.32 for grade 6 teachers and a mean of 3.68 for grade 5 teachers; in sufficiency of social sciences periodicals, the greatest difference appears between a mean of 3.24 for grade 6 teachers and a mean of 3.64 for kindergarten teachers; in variety of social sciences periodicals, the greatest difference appears between a mean of 3.16 for grade 6 teachers and a mean of 4.00 for grade 1 teachers; in quality of social sciences periodicals, the greatest difference appears between a mean of 3.38 for grade 6 teachers and a mean of 4.00 for grade 1 teachers; in timeliness of social sciences periodicals, the greatest difference appears between a mean of 3.30 for grade 6 teachers and a mean of 4.00 for grade 1 teachers; and in physical condition of social sciences periodicals, the

Table 20. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of social sciences periodicals by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 11)	$\bar{X}$	3.36	3.64	3.55	3.46	3.55	3.55	3.52
	s	1.07	.77	.89	.66	.78	.50	.80
Grade 1 (n = 13)	$\bar{X}$	3.54	3.46	4.00	4.00	4.00	3.85	3.81
	s	.63	.84	.78	.78	.78	.77	.80
Grade 2 (n = 23)	$\bar{X}$	3.39	3.35	3.39	3.57	3.70	3.78	3.53
	s	.77	.91	1.09	.92	.86	1.02	.95
Grade 3 (n = 23)	$\bar{X}$	3.61	3.61	3.22	3.65	3.70	3.70	3.58
	s	.87	.82	1.02	.81	.91	1.00	.92
Grade 4 (n = 32)	$\bar{X}$	3.44	3.25	3.50	3.69	3.69	3.88	3.57
	s	.86	1.00	.90	.85	.81	.93	.92
Grade 5 (n = 19)	$\bar{X}$	3.68	3.47	3.47	3.74	3.90	3.90	3.69
	s	.98	.99	.82	.78	.91	.91	.92
Grade 6 (n = 37)	$\bar{X}$	3.32	3.24	3.16	3.38	3.30	3.27	3.28
	s	.77	.75	.92	.91	.98	.92	.88
Totals (n = 158)	$\bar{X}$	3.46	3.39	3.41	3.61	3.64	3.67	3.53
	s	.85	.89	.96	.86	.91	.94	.91
F value		<1	<1	1.50	1.07	1.55	1.74	

greatest difference appears between a mean of 3.27 for grade 6 teachers and a mean of 3.90 for grade 5 teachers.

For the hypothesis tested, none of the materials characteristics of social sciences periodicals exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with social sciences periodicals.

Table 21 presents data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of mathematics periodicals by teaching assignment. With respect to the relevance of mathematics periodicals, the greatest difference appears between a mean of 3.40 for grade 6 teachers and a mean of 4.50 for kindergarten teachers; in sufficiency of mathematics periodicals, the greatest difference appears between a mean of 3.46 for grade 5 teachers and a mean of 4.50 for kindergarten teachers; in variety of mathematics periodicals, the greatest difference appears between a mean of 3.33 for grade 6 teachers and a mean of 4.38 for grade 4 teachers; in quality of mathematics periodicals, the greatest difference appears between a mean of 3.67 for grade 6 teachers and a mean of 4.17 for grade 1 teachers; in timeliness of mathematics periodicals, the greatest difference appears between a mean of 3.00 for kindergarten teachers and a mean of 4.50 for grade 4 teachers; and in physical condition of mathematics periodicals, the greatest difference appears between a mean of 3.40 for grade 6 teachers and a mean of 4.75 for grade 4 teachers.

For the hypothesis tested, none of the materials characteristics of

Table 21. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of mathematics periodicals by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 2)	$\bar{X}$	4.50	4.50	4.00	4.00	3.00	3.50	3.92
	s	.50	.50	1.00	.00	1.00	.50	.86
Grade 1 (n = 6)	$\bar{X}$	3.67	3.83	3.83	4.17	4.00	3.83	3.89
	s	.94	.69	.69	.69	.82	.90	.81
Grade 2 (n = 11)	$\bar{X}$	3.46	3.82	3.82	3.82	3.91	4.10	3.82
	s	.89	.83	.83	.94	1.00	.90	.92
Grade 3 (n = 12)	$\bar{X}$	3.67	3.67	3.67	3.92	3.67	3.58	3.69
	s	.62	1.03	1.11	.76	1.18	1.11	.99
Grade 4 (n = 8)	$\bar{X}$	3.63	4.25	4.38	4.13	4.50	4.75	4.27
	s	.86	.83	.86	.78	.50	.43	.81
Grade 5 (n = 11)	$\bar{X}$	3.73	3.46	3.73	4.00	3.91	4.00	3.80
	s	.75	1.16	.86	1.04	1.08	.85	.99
Grade 6 (n = 15)	$\bar{X}$	3.40	3.53	3.33	3.67	3.33	3.40	3.44
	s	.71	1.02	1.07	1.01	.94	.88	.96
Totals (n = 65)	$\bar{X}$	3.60	3.74	3.74	3.91	3.79	3.86	3.77
	s	.80	1.00	1.00	.91	1.05	.97	.96
F value		<1	<1	<1	<1	1.43	2.21	

mathematics periodicals exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with mathematics periodicals.

Table 22 indicates data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of language arts periodicals by teaching assignment. With respect to the relevance of language arts periodicals, the greatest difference appears between a mean of 3.11 for kindergarten teachers and a mean of 3.82 for grade 5 teachers; in sufficiency of language arts periodicals, the greatest difference appears between a mean of 3.18 for grade 5 teachers and a mean of 3.61 for grade 4 teachers; in variety of language arts periodicals, the greatest difference appears between a mean of 3.06 for grade 6 teachers and a mean of 3.56 for kindergarten teachers; in quality of language arts periodicals, the greatest difference appears between a mean of 3.41 for grade 6 teachers and a mean of 3.96 for grade 3 teachers; in timeliness of language arts periodicals, the greatest difference appears between a mean of 3.22 for grade 6 teachers and a mean of 3.96 for grade 5 teachers; and in physical condition of language arts periodicals, the greatest difference appears between a mean of 3.00 for kindergarten teachers and a mean of 3.96 for grade 3 teachers.

The F value of 3.45 for physical condition of language arts periodicals exceeded the tabled value of F at the .01 level of significance with a value of 2.92 for 6 (Between) and 150 (Within) degrees of freedom. All other materials characteristics for language arts periodicals failed to exceed this table value; therefore, only the specific null hypothesis con-

Table 22. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of language arts periodicals by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 9)	$\bar{X}$	3.11	3.56	3.56	3.67	3.67	3.00	3.43
	s	.99	.68	.83	.82	1.15	.82	.93
Grade 1 (n = 13)	$\bar{X}$	3.69	3.54	3.54	3.92	3.77	3.92	3.73
	s	.72	.75	.93	.92	.89	.73	.84
Grade 2 (n = 20)	$\bar{X}$	3.30	3.40	3.45	3.55	3.85	3.85	3.57
	s	.84	1.02	.80	.80	.79	1.01	.91
Grade 3 (n = 23)	$\bar{X}$	3.65	3.48	3.52	3.96	3.83	3.96	3.73
	s	.70	.83	.83	.75	.92	.95	.86
Grade 4 (n = 38)	$\bar{X}$	3.71	3.61	3.21	3.71	3.68	3.82	3.62
	s	.76	.96	1.08	.82	.98	1.00	.96
Grade 5 (n = 22)	$\bar{X}$	3.82	3.18	3.46	3.72	3.96	3.91	3.67
	s	.78	1.03	.89	.81	.82	.79	.90
Grade 6 (n = 32)	$\bar{X}$	3.41	3.22	3.06	3.41	3.22	3.13	3.24
	s	.70	1.05	1.00	1.09	1.08	.99	1.00
Totals (n = 157)	$\bar{X}$	3.57	3.41	3.34	3.68	3.68	3.68	3.56
	s	.79	.96	.96	.90	.99	1.00	.95
F value		1.81	<1	<1	1.11	1.69	3.45*	

cerned with language arts periodicals was rejected. Table 68, Appendix C, contains the results of the analysis of variance regarding language arts periodicals.

Ordered Groups	K	6	4	2	5	1	3
Means	3.00	3.13	3.82	3.85	3.91	3.92	3.96
Comparisons							

When the Newman-Keuls test for all possible pairs of ordered means was made for the physical condition of language arts periodicals, it was determined that means 3.00 for kindergarten teachers and 3.13 for grade 6 teachers do differ from means 3.82 for grade 4 teachers, 3.85 for grade 2 teachers, 3.91 for grade 5 teachers, 3.92 for grade 1 teachers, and 3.96 for grade 3 teachers. It may be concluded, therefore, that kindergarten and grade 6 teachers perceive language arts periodicals in a similar manner but do differ in their perceptions from teachers of grade 4, grade 2, grade 5, grade 1, and grade 3.

Table 23 presents data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of science films by teaching assignment. With respect to the relevance of science films, the greatest difference appears between a mean of 3.56 for grade 2 teachers and a mean of 3.94 for grade 5 teachers; in sufficiency of science films, the greatest difference appears between a mean of 3.25 for grade 2 teachers and a mean of 3.61 for grade 4 teachers; in variety of science films, the greatest difference appears between a mean of 3.16 for grade 2 teachers and a mean of 3.59 for grade 5 teachers; in quality of science films, the greatest difference appears between a mean of 3.48 for kindergarten teachers and a mean of 3.86 for grade 4 teachers; in timeliness of

Table 23. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of science films by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 85)	$\bar{X}$	3.65	3.51	3.34	3.48	3.38	3.38	3.46
	s	.78	.70	.88	.83	.81	.92	.83
Grade 1 (n = 149)	$\bar{X}$	3.62	3.40	3.41	3.53	3.21	3.44	3.44
	s	.79	.93	.90	.77	.90	.84	.87
Grade 2 (n = 144)	$\bar{X}$	3.56	3.25	3.16	3.56	3.20	3.50	3.37
	s	.74	.93	.93	.81	.92	.87	.89
Grade 3 (n = 164)	$\bar{X}$	3.71	3.48	3.40	3.64	3.51	3.58	3.55
	s	.80	.92	.96	.82	.89	.94	.90
Grade 4 (n = 152)	$\bar{X}$	3.92	3.61	3.56	3.86	3.65	3.80	3.73
	s	.77	.84	.82	.76	.88	.80	.82
Grade 5 (n = 128)	$\bar{X}$	3.94	3.45	3.59	3.83	3.59	3.76	3.70
	s	.85	1.00	.92	.85	.91	.84	.91
Grade 6 (n = 119)	$\bar{X}$	3.76	3.35	3.41	3.66	3.56	3.62	3.56
	s	.82	.96	.96	.86	.96	.91	.92
Totals (n = 941)	$\bar{X}$	3.74	3.43	3.41	3.66	3.44	3.59	3.55
	s	.81	.91	.92	.82	.92	.89	.89
F value		4.65*	2.25	3.43*	4.02*	5.83*	4.09*	

science films, the greatest difference appears between a mean of 3.20 for grade 2 teachers and a mean of 3.65 for grade 4 teachers; and in physical condition of science films, the greatest difference appears between a mean of 3.38 for kindergarten teachers and a mean of 3.80 for grade 4 teachers.

In respect to science films, the F values of 4.65 for relevance, 3.43 for variety, 4.02 for quality, 5.83 for timeliness, and 4.09 for physical condition all exceeded the table value of F at the .01 level of significance with a value of 2.82 for 6 (Between) and 934 (Within) degrees of freedom; therefore, all portions of the null hypothesis concerned with science films were rejected. Table 69, Appendix C, contains the results of the analysis of variance regarding science films.

Ordered Groups	2	1	K	3	6	4	5
Means	3.56	3.62	3.65	3.71	3.76	3.92	3.94
Comparisons							

When the Newman-Keuls test for all possible pairs of ordered means was made for relevance of science films, it was determined that the mean 3.56 for grade 2 teachers differs from the means 3.92 for grade 4 teachers and 3.94 for grade 5 teachers. It was determined that means 3.62 for grade 1 teachers, 3.65 for kindergarten teachers, 3.71 for grade 3 teachers, and 3.76 for grade 6 teachers do not differ from the means indicated by grade 2, grade 4, or grade 5 teachers. It may be concluded, therefore, that grade 2 teachers perceive the relevance of science films in a similar manner but differ in their perceptions from teachers in grade 4 and grade 5.

Ordered Groups	2	K	3	1	6	4	5
Means	3.16	3.34	3.40	3.41	3.41	3.56	3.59
Comparisons							

When the Newman-Keuls test for all possible pairs of ordered means was made for variety of science films, it was determined that the mean 3.16 for grade 2 teachers differs from the means 3.56 for grade 4 teachers and 3.59 for grade 5 teachers. It was determined that means 3.34 for kindergarten teachers, 3.40 for grade 3 teachers, 3.41 for grade 1 teachers, and 3.41 for grade 6 teachers do not differ from the means indicated by grade 2, grade 4, or grade 5 teachers. It may be concluded, therefore, that grade 2 teachers perceive the variety of science films in a similar manner but do differ in their perceptions from teachers in grade 4 and grade 5.

Ordered Groups	K	1	2	3	6	5	4
Means	3.48	3.53	3.56	3.64	3.66	3.83	3.86
Comparisons							

When the Newman-Keuls test for all possible pairs of ordered means was made for quality of science films, it was determined that the mean 3.48 for kindergarten teachers differs from the means 3.83 for grade 5 teachers and 3.86 for grade 4 teachers. It was determined that means 3.53 for grade 1 teachers, 3.56 for grade 2 teachers, 3.64 for grade 3 teachers, and 3.66 for grade 6 teachers do not differ from the means indicated by kindergarten, grade 5, or grade 4 teachers. It may be concluded, therefore, that kindergarten teachers perceive the quality of science films in a similar manner but do differ in their perceptions from teachers in grade 5 and grade 4.

Ordered Groups	2	1	K	3	6	5	4
Means	3.20	3.21	3.39	3.51	3.56	3.59	3.65
Comparisons							

When the Newman-Keuls test for all possible pairs of ordered means was made for timeliness of science films, it was determined that the means 3.20 for grade 2 teachers and 3.21 for grade 1 teachers do differ from the means 3.59 for grade 5 teachers and 3.65 for grade 4 teachers. It was determined that means 3.39 for kindergarten teachers, 3.51 for grade 3 teachers, and 3.56 for grade 6 teachers do not differ from the means indicated by grade 2, grade 1, grade 5, or grade 4 teachers. It may be concluded, therefore, that grade 2 and grade 1 teachers perceive the timeliness of science films in a similar manner but do differ in their perceptions from teachers in grade 5 and grade 4.

Ordered Groups	K	1	2	3	6	5	4
Means	3.38	3.44	3.50	3.58	3.62	3.76	3.80
Comparisons							

When the Newman-Keuls test for all possible pairs of ordered means was made for physical condition of science films, it was determined that the mean 3.38 for kindergarten teachers does differ from the means 3.76 for grade 5 teachers and 3.80 for grade 4 teachers. It was determined that the means 3.44 for grade 1 teachers, 3.50 for grade 2 teachers, 3.58 for grade 3 teachers, and 3.62 for grade 6 teachers do not differ from the means indicated by kindergarten, grade 5, or grade 4 teachers. It may be concluded, therefore, that kindergarten teachers perceive the physical condition of science films in a similar manner but do differ in their perceptions from teachers in grade 5 and grade 4.

Table 24 indicates data concerned with the perceptions of elementary

Table 24. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of social sciences films by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 84)	$\bar{X}$	3.56	3.32	3.37	3.45	3.26	3.30	3.38
	s	.81	.89	.86	.78	.89	.91	.86
Grade 1 (n = 147)	$\bar{X}$	3.52	3.25	3.31	3.46	3.27	3.45	3.38
	s	.78	.85	.81	.72	.84	.81	.81
Grade 2 (n = 141)	$\bar{X}$	3.55	3.28	3.28	3.48	3.26	3.54	3.40
	s	.72	.88	.89	.76	.92	.86	.85
Grade 3 (n = 166)	$\bar{X}$	3.62	3.44	3.39	3.54	3.49	3.54	3.50
	s	.78	.92	.87	.80	.88	.91	.87
Grade 4 (n = 158)	$\bar{X}$	3.79	3.58	3.49	3.73	3.58	3.70	3.64
	s	.83	.88	.88	.79	.81	.79	.84
Grade 5 (n = 131)	$\bar{X}$	3.99	3.54	3.56	3.86	3.62	3.61	3.70
	s	.75	.95	.92	.79	.83	.92	.88
Grade 6 (n = 115)	$\bar{X}$	3.97	3.65	3.63	3.85	3.75	3.74	3.76
	s	.73	.87	.93	.70	.92	.92	.86
Totals (n = 942)	$\bar{X}$	3.71	3.44	3.43	3.62	3.47	3.57	3.54
	s	.79	.91	.89	.78	.89	.88	.86
F value		8.61*	4.14*	2.73	7.24*	6.37*	3.24*	

classroom teachers regarding the materials characteristics of social sciences films by teaching assignment. With respect to the relevance of social sciences films, the greatest difference appears between a mean of 3.52 for grade 1 teachers and a mean of 3.99 for grade 5 teachers; in sufficiency of social sciences films, the greatest difference appears between a mean of 3.25 for grade 1 teachers and a mean of 3.65 for grade 6 teachers; in variety of social sciences films, the greatest difference appears between a mean of 3.28 for grade 2 teachers and a mean of 3.63 for grade 6 teachers; in quality of social sciences films, the greatest difference appears between a mean of 3.45 for kindergarten teachers and a mean of 3.86 for grade 5 teachers; in timeliness of social sciences films, the greatest difference appears between a mean of 3.26 for kindergarten and grade 2 teachers and a mean of 3.75 for grade 6 teachers; and in physical condition of social sciences films, the greatest difference appears between a mean of 3.30 for kindergarten teachers and a mean of 3.74 for grade 6 teachers.

With respect to social sciences films, the F values of 8.61 for relevance, 4.14 for sufficiency, 7.23 for quality, 6.37 for timeliness, and 3.24 for physical condition all exceeded the table value of F at the .01 level of significance with a value of 2.82 for 6 (Between) and 935 (Within) degrees of freedom; therefore, all portions of the null hypothesis concerned with social sciences films were rejected. Table 70, Appendix C, contains the results of the analysis of variance regarding social sciences films.

Ordered Groups	1	2	K	3	4	6	5
Means	3.52	3.55	3.56	3.62	3.79	3.97	3.99
Comparisons							

When the Newman-Keuls test for all possible pairs of ordered means was made for the relevance of social sciences films, it was determined that the means 3.52 for grade 1 teachers, 3.55 for grade 2 teachers, 3.56 for kindergarten teachers, and 3.62 for grade 3 teachers do differ from the means 3.97 for grade 6 teachers and 3.99 for grade 5 teachers. It was determined that the mean 3.79 for grade 4 teachers does not differ from the means indicated by grade 1, grade 2, kindergarten, grade 3, grade 6, or grade 5 teachers. It may be concluded, therefore, that grade 1, grade 2, kindergarten, and grade 3 teachers perceive the relevance of social sciences films in a similar manner but do differ in their perceptions from grade 6 and grade 5 teachers.

Ordered Groups	1	2	K	3	5	4	6
Means	3.25	3.28	3.32	3.44	3.54	3.58	3.65
Comparisons							

When the Newman-Keuls test for all possible pairs of ordered means was made for the sufficiency of social sciences films, it was determined that the mean 3.25 for grade 1 teachers does differ from the mean 3.65 for grade 6 teachers. It was determined that the means 3.28 for grade 2 teachers, 3.32 for kindergarten teachers, 3.44 for grade 3 teachers, 3.54 for grade 5 teachers, and 3.58 for grade 4 teachers do not differ from the means indicated by grade 1 or grade 6 teachers. It may be concluded, therefore, that grade 1 teachers perceive the sufficiency of social sciences films differently than grade 6 teachers.

Ordered Groups	K	1	2	3	4	6	5
Means	3.45	3.46	3.48	3.54	3.73	3.85	3.86
Comparisons							

When the Newman-Keuls test for all possible pairs of ordered means was made for the quality of social sciences films, it was determined that the means 3.45 for kindergarten teachers, 3.46 for grade 1 teachers, 3.48 for grade 2 teachers, and 3.54 for grade 3 teachers do differ from the means 3.85 for grade 6 teachers and 3.86 for grade 5 teachers. It was determined that the mean 3.73 for grade 4 teachers does not differ from the means indicated by kindergarten, grade 1, grade 2, grade 3, grade 6, or grade 5 teachers. It may be concluded, therefore, that kindergarten, grade 1, grade 2, and grade 3 teachers perceive the quality of social sciences films in a similar manner but do differ in their perceptions from grade 6 and grade 5 teachers.

Ordered Groups	K	2	1	3	4	5	6
Means	3.26	3.26	3.27	3.49	3.58	3.62	3.75
Comparisons							

When the Newman-Keuls test for all possible pairs of ordered means was made for the timeliness of social sciences films, it was determined that the means 3.26 for kindergarten teachers, 3.26 for grade 2 teachers, and 3.27 for grade 1 teachers do differ from the mean 3.75 for grade 6 teachers. It was determined that the means 3.49 for grade 3 teachers, 3.58 for grade 4 teachers, and 3.62 for grade 5 teachers do differ from the means indicated by kindergarten, grade 2, grade 1, or grade 6 teachers. It may be concluded, therefore, that kindergarten, grade 2, and grade 1 teachers perceive the timeliness of social sciences films in a similar manner but do differ in their perceptions from grade 6 teachers.

Ordered Groups	K	1	2	3	5	4	6
Means	3.30	3.45	3.54	3.54	3.61	3.70	3.74
Comparisons							

When the Newman-Keuls test for all possible pairs of ordered means was made for the physical condition of social sciences films, it was determined that the mean 3.30 for kindergarten teachers does differ from the means 3.70 for grade 4 teachers and 3.74 for grade 6 teachers. It was determined that the means 3.45 for grade 1 teachers, 3.54 for grade 2 teachers, 3.54 for grade 3 teachers, and 3.61 for grade 5 teachers do not differ from the means indicated by kindergarten, grade 4, or grade 6 teachers. It may be concluded, therefore, that kindergarten teachers perceive the physical condition of social sciences films in a similar manner but do differ in their perceptions from teachers of grade 4 and grade 6.

Table 25 presents data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of mathematics films by teaching assignment. With respect to the relevance of mathematics films, the greatest difference appears between a mean of 3.37 for grade 1 teachers and a mean of 3.69 for grade 4 teachers; in sufficiency of mathematics films, the greatest difference appears between a mean of 3.16 for grade 1 teachers and a mean of 3.54 for grade 6 teachers; in variety of mathematics films, the greatest difference appears between a mean of 3.10 for grade 5 teachers and a mean of 2.99 for grade 1 teachers; in quality of mathematics films, the greatest difference appears between a mean of 3.35 for grade 1 teachers and a mean of 3.78 for grade 5 teachers; in timeliness of mathematics films, the greatest difference appears between a mean of 3.24 for grade 1 teachers and a mean of 3.78 for grade 5 teachers;

Table 25. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of mathematics films by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 29)	$\bar{X}$	3.55	3.41	3.21	3.48	3.52	3.55	3.45
	s	.81	.85	.89	.77	.77	.85	.83
Grade 1 (n = 74)	$\bar{X}$	3.37	3.16	2.99	3.35	3.24	3.42	3.26
	s	.78	.81	.92	.80	.87	.79	.84
Grade 2 (n = 89)	$\bar{X}$	3.40	3.27	3.12	3.37	3.42	3.65	3.37
	s	.77	.90	1.04	.87	.88	.82	.90
Grade 3 (n = 81)	$\bar{X}$	3.68	3.52	3.37	3.68	3.54	3.64	3.57
	s	.78	.98	.99	.73	.86	.81	.87
Grade 4 (n = 73)	$\bar{X}$	3.69	3.48	3.12	3.64	3.62	3.81	3.56
	s	.81	1.01	1.07	.80	.84	.93	.94
Grade 5 (n = 58)	$\bar{X}$	3.66	3.33	3.10	3.78	3.78	3.86	3.58
	s	.82	1.02	1.08	.85	.93	.90	.98
Grade 6 (n = 65)	$\bar{X}$	3.65	3.54	3.32	3.60	3.43	4.52	3.51
	s	.87	.99	.96	.89	.82	.86	.91
Totals (n = 469)	$\bar{X}$	3.56	3.38	3.18	3.55	3.50	3.64	3.47
	s	.81	.95	1.01	.83	.88	.86	.91
F value		2.10	1.60	1.29	2.69	2.52	2.20	

and in physical condition of mathematics films, the greatest difference apppars between a mean of 3.42 for grade 1 teachers and a mean of 4.52 for grade 6 teachers.

For the hypothesis tested, none of the materials characteristics of mathematics films exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with mathematics films.

Table 26 indicates data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of language arts films by teaching assignment. With respect to the relevance of language arts films, the greatest difference appears between a mean of 3.55 for grade 2 teachers and a mean of 3.77 for grade 5 teachers; in sufficiency of language arts films, the greatest difference appears between a mean of 3.37 for grade 1 teachers and a mean of 3.55 for grade 5 teachers; in variety of language arts films, the greatest difference appears between a mean of 3.20 for grade 4 teachers and a mean of 3.47 for grade 6 teachers; in quality of language arts films, the greatest difference appears between a mean of 3.48 for kindergarten teachers and a mean of 3.72 for grade 6 teachers; in timeliness of language arts films, the greatest difference appears between a mean of 3.33 for kindergarten teachers and a mean of 3.66 for grade 6 teachers; and in physical condition of language arts films, the greatest difference appears between a mean of 3.43 for kindergarten teachers and a mean of 3.71 for grade 5 teachers.

For the hypothesis tested, none of the materials characteristics of language arts films exceeded the tabled value of F at the .01 level of

Table 26. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of language arts films by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 67)	$\bar{X}$	3.67	3.43	3.45	3.48	3.33	3.43	3.47
	s	.70	.74	.74	.65	.70	.74	.72
Grade 1 (n = 113)	$\bar{X}$	3.57	3.37	3.43	3.59	3.42	3.52	3.48
	s	.70	.88	.88	.71	.88	.86	.83
Grade 2 (n = 113)	$\bar{X}$	3.55	3.42	3.40	3.58	3.46	3.58	3.50
	s	.73	.86	.86	.76	.82	.84	.82
Grade 3 (n = 119)	$\bar{X}$	3.66	3.40	3.34	3.63	3.56	3.70	3.55
	s	.74	.86	.97	.79	.87	.87	.86
Grade 4 (n = 115)	$\bar{X}$	3.76	3.40	3.20	3.58	3.58	3.64	3.53
	s	.79	.91	1.02	.81	.87	.89	.90
Grade 5 (n = 84)	$\bar{X}$	3.77	3.55	3.33	3.66	3.58	3.71	3.60
	s	.76	.84	.86	.81	.88	.89	.85
Grade 6 (n = 87)	$\bar{X}$	3.68	3.53	3.47	3.72	3.66	3.66	3.62
	s	.72	.88	.81	.81	.84	.79	.82
Totals (n = 698)	$\bar{X}$	3.66	3.44	3.37	3.61	3.52	3.61	3.53
	s	.74	.86	.90	.77	.85	.85	.84
F value		1.40	<1	1.11	<1	1.54	1.19	

significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with language arts films.

Table 27 presents data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of science filmstrips by teaching assignment. With respect to the relevance of science filmstrips, the greatest difference appears between a mean of 3.36 for grade 2 teachers and a mean of 3.76 for grade 4 teachers; in sufficiency of science filmstrips, the greatest difference appears between a mean of 3.21 for grade 2 teachers and a mean of 3.52 for grade 4 teachers; in variety of science filmstrips, the greatest difference appears between a mean of 3.12 for grade 2 teachers and a mean of 3.48 for grade 4 teachers; in quality of science filmstrips, the greatest difference appears between a mean of 3.38 for grade 6 teachers and a mean of 3.71 for grade 4 teachers; in timeliness of science filmstrips, the greatest difference appears between a mean of 3.14 for grade 1 teachers and a mean of 3.51 for grade 4 teachers; and in physical condition of science filmstrips, the greatest difference appears between a mean of 3.33 for grade 1 teachers and a mean of 3.69 for grade 4 teachers.

For the hypothesis tested, none of the materials characteristics of science filmstrips exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with science filmstrips.

Table 28 indicates data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of social sciences filmstrips by teaching assignment. With respect to the relevance of

Table 27. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of science filmstrips by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 46)	$\bar{X}$	3.41	3.48	3.17	3.46	3.44	3.41	3.40
	s	.77	.62	.84	.85	.82	.85	.80
Grade 1 (n = 88)	$\bar{X}$	3.56	3.31	3.21	3.41	3.14	3.33	3.32
	s	.82	.83	.83	.76	.93	.85	.85
Grade 2 (n = 75)	$\bar{X}$	3.36	3.21	3.12	3.40	3.19	3.39	3.28
	s	.86	.88	.94	.91	.93	.88	.91
Grade 3 (n = 90)	$\bar{X}$	3.51	3.27	3.33	3.47	3.42	3.60	3.43
	s	.73	.84	.99	.88	.99	1.00	.92
Grade 4 (n = 75)	$\bar{X}$	3.76	3.52	3.48	3.71	3.51	3.69	3.61
	s	.73	1.01	1.04	.89	1.06	.97	.96
Grade 5 (n = 64)	$\bar{X}$	3.70	3.50	3.47	3.60	3.48	3.52	3.54
	s	.84	.88	.88	.86	1.03	.97	.92
Grade 6 (n = 73)	$\bar{X}$	3.67	3.34	3.26	3.38	3.37	3.51	3.42
	s	.83	.81	.89	.75	.93	.95	.87
Totals (n = 511)	$\bar{X}$	3.57	3.36	3.29	3.49	3.35	3.50	3.43
	s	.81	.86	.93	.85	.98	.94	.90
F value		2.41	1.45	1.62	1.45	1.73	1.45	

Table 28. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of social sciences filmstrips by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 43)	$\bar{X}$	3.58	3.37	3.07	3.07	3.14	3.23	3.24
	s	.84	.65	1.11	1.00	1.09	1.01	.98
Grade 1 (n = 80)	$\bar{X}$	3.49	3.19	3.20	3.31	3.21	3.35	3.29
	s	.81	.95	.97	.90	1.01	1.01	.95
Grade 2 (n = 75)	$\bar{X}$	3.43	3.20	3.20	3.39	3.24	3.53	3.33
	s	.64	.80	.88	.85	.91	.81	.83
Grade 3 (n = 85)	$\bar{X}$	3.48	3.27	3.40	3.53	3.35	3.41	3.41
	s	.75	.79	.87	.81	.78	.97	.83
Grade 4 (n = 69)	$\bar{X}$	3.61	3.39	3.32	3.67	3.58	3.68	3.54
	s	.78	1.01	1.04	.93	.94	1.04	.97
Grade 5 (n = 65)	$\bar{X}$	3.79	3.45	3.45	3.54	3.45	3.55	3.54
	s	.81	.98	.96	.91	1.01	1.07	.97
Grade 6 (n = 74)	$\bar{X}$	3.64	3.42	3.31	3.50	3.46	3.50	3.47
	s	.83	.87	.97	.78	.84	.86	.87
Totals (n = 491)	$\bar{X}$	3.56	3.32	3.29	3.45	3.35	3.48	3.41
	s	.79	.88	.97	.89	.94	.97	.91
F value		1.67	1.04	1.07	2.69	1.79	1.36	

social sciences filmstrips, the greatest difference appears between a mean of 3.43 for grade 2 teachers and a mean of 3.79 for grade 5 teachers; in sufficiency of social sciences filmstrips, the greatest difference appears between a mean of 3.19 for grade 1 teachers and a mean of 3.45 for grade 5 teachers; in variety of social sciences filmstrips, the greatest difference appears between a mean of 3.07 for kindergarten teachers and a mean of 3.45 for grade 5 teachers; in quality of social sciences filmstrips, the greatest difference appears between a mean of 3.07 for kindergarten teachers and a mean of 3.67 for grade 4 teachers; in timeliness of social sciences filmstrips, the greatest difference appears between a mean of 3.14 for kindergarten teachers and a mean of 3.58 for grade 4 teachers; and in physical condition of social sciences filmstrips, the greatest difference appears between a mean of 3.23 for kindergarten teachers and a mean of 3.68 for grade 4 teachers.

For the hypothesis tested, none of the materials characteristics of social sciences filmstrips exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with social sciences filmstrips.

Table 29 presents data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of mathematics filmstrips by teaching assignment. With respect to the relevance of mathematics filmstrips, the greatest difference appears between a mean of 3.40 for grade 2 teachers and a mean of 3.79 for grade 4 teachers; in sufficiency of mathematics filmstrips, the greatest difference appears between

Table 29. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of mathematics filmstrips by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 20)	$\bar{X}$	3.55	3.45	3.35	3.30	3.45	3.55	3.44
	s	.67	.80	.73	.78	.80	.86	.78
Grade 1 (n = 47)	$\bar{X}$	3.45	3.20	3.34	3.43	3.26	3.47	3.36
	s	.82	.82	.75	.76	.98	.85	.84
Grade 2 (n = 45)	$\bar{X}$	3.40	3.31	3.31	3.38	3.36	3.56	3.39
	s	.80	.98	.98	.95	1.01	.98	.96
Grade 3 (n = 41)	$\bar{X}$	3.44	3.15	3.42	3.49	3.46	3.44	3.40
	s	.73	1.03	.94	.74	.83	.77	.85
Grade 4 (n = 34)	$\bar{X}$	3.79	3.56	3.47	3.82	3.88	4.09	3.77
	s	.63	.98	1.04	.78	.80	.82	.87
Grade 5 (n = 34)	$\bar{X}$	3.53	3.41	3.24	3.65	3.62	3.74	3.53
	s	.74	.94	1.09	.87	.94	1.01	.95
Grade 6 (n = 38)	$\bar{X}$	3.63	3.42	3.24	3.53	3.40	3.47	3.45
	s	.62	.94	.78	.68	.63	.75	.75
Totals (n = 259)	$\bar{X}$	3.53	3.34	3.34	3.51	3.47	3.60	3.47
	s	.74	.95	.92	.82	.90	.89	.88
F value		1.27	<1	<1	1.51	2.01	2.45	

a mean of 3.15 for grade 3 teachers and a mean of 3.56 for grade 4 teachers; in variety of mathematics filmstrips, the greatest difference appears between a mean of 3.24 for grade 5 and grade 6 teachers and a mean of 3.47 for grade 4 teachers; in quality of mathematics filmstrips, the greatest difference appears between a mean of 3.30 for kindergarten teachers and a mean of 3.82 for grade 4 teachers; in timeliness of mathematics filmstrips, the greatest difference appears between a mean of 3.26 for grade 1 teachers and a mean of 3.88 for grade 4 teachers; and in physical condition of mathematics filmstrips, the greatest difference appears between a mean of 3.44 for grade 3 teachers and a mean of 4.09 for grade 4 teachers.

For the hypothesis tested, none of the materials characteristics of mathematics filmstrips exceeded the tabled value of F at the.01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with mathematics filmstrips.

Table 30 presents data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of language arts filmstrips by teaching assignment. With respect to the relevance of language arts filmstrips, the greatest difference appears between a mean of 3.51 for grade 1 teachers and a mean of 3.77 for grade 4 teachers; in sufficiency of language arts filmstrips, the greatest difference appears between a mean of 3.26 for grade 1 teachers and a mean of 3.51 for kindergarten teachers; in variety of language arts filmstrips, the greatest difference appears between a mean of 3.22 for grade 6 teachers and a mean of 3.43 for kindergarten and grade 5 teachers; in quality of language arts filmstrips, the greatest difference appears between a mean of 3.44 for

Table 30. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of language arts filmstrips by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 35)	$\bar{X}$	3.66	3.51	3.43	3.66	3.51	3.54	3.55
	s	.75	.65	.87	.58	.77	.84	.76
Grade 1 (n = 57)	$\bar{X}$	3.51	3.26	3.23	3.44	3.30	3.33	3.35
	s	.80	.89	.94	.96	1.01	1.01	.94
Grade 2 (n = 60)	$\bar{X}$	3.53	3.40	3.32	3.50	3.38	3.42	3.43
	s	.72	.84	.85	.72	.91	.94	.84
Grade 3 (n = 50)	$\bar{X}$	3.62	3.36	3.36	3.76	3.56	3.66	3.55
	s	.72	.79	.97	.74	.90	.86	.85
Grade 4 (n = 51)	$\bar{X}$	3.77	3.43	3.31	3.71	3.57	3.71	3.58
	s	.70	.95	1.00	.77	1.01	.96	.92
Grade 5 (n = 40)	$\bar{X}$	3.75	3.50	3.43	3.70	3.70	3.80	3.65
	s	.77	.87	.83	.90	.98	1.05	.91
Grade 6 (n = 55)	$\bar{X}$	3.53	3.38	3.22	3.58	3.56	3.60	3.48
	s	.73	.84	.85	.78	.80	.70	.80
Totals (n = 348)	$\bar{X}$	3.61	3.40	3.32	3.61	3.50	3.57	3.50
	s	.75	.85	.91	.80	.93	.93	.87
F value		1.01	<1	<1	1.16	1.04	1.59	

grade 1 teachers and a mean of 3.76 for grade 3 teachers; in timeliness of language arts filmstrips, the greatest difference appears between a mean of 3.30 for grade 1 teachers and a mean of 3.70 for grade 5 teachers; and in physical condition of language arts filmstrips, the greatest difference appears between a mean of 3.33 for grade 1 teachers and a mean of 3.80 for grade 5 teachers.

For the hypothesis tested, none of the materials characteristics of language arts filmstrips exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with language arts filmstrips.

Table 31 indicates data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of science slide sets by teaching assignment. With respect to the relevance of science slide sets, the greatest difference appears between a mean of 3.00 for grade 1 teachers and a mean of 3.64 for grade 4 teachers; in sufficiency of science slide sets, the greatest difference appears between a mean of 2.88 for grade 5 teachers and a mean of 3.56 for grade 4 teachers; in variety of science slide sets, the greatest difference appears between a mean of 3.12 for grade 5 teachers and a mean of 3.80 for grade 4 teachers; in quality of science slide sets, the greatest difference appears between a mean of 3.20 for grade 1 teachers and a mean of 3.80 for grade 4 teachers; in timeliness of science slide sets, the greatest difference appears between a mean of 3.07 for grade 1 teachers and a mean of 3.96 for grade 4 teachers; and in physical condition of science slide sets, the

Table 31. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of science slide sets by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 7)	$\bar{X}$	3.29	3.43	3.71	3.57	3.86	4.14	3.67
	s	.45	.73	.70	.73	.64	.64	.71
Grade 1 (n = 15)	$\bar{X}$	3.00	2.93	3.13	3.20	3.07	3.00	3.06
	s	.97	1.34	1.41	1.22	1.24	1.21	1.24
Grade 2 (n = 21)	$\bar{X}$	3.19	3.19	3.33	3.52	3.52	3.48	3.37
	s	1.01	1.22	1.13	1.10	1.10	1.18	1.13
Grade 3 (n = 21)	$\bar{X}$	3.52	3.48	3.43	3.62	3.62	3.86	3.59
	s	.91	.91	1.18	.95	1.09	1.17	1.05
Grade 4 (n = 25)	$\bar{X}$	3.64	3.56	3.80	3.80	3.96	3.92	3.78
	s	.97	1.17	1.17	1.13	1.15	1.23	1.15
Grade 5 (n = 17)	$\bar{X}$	3.41	2.88	3.12	3.71	3.77	3.53	3.40
	s	.97	.96	1.08	1.13	1.00	1.09	1.09
Grade 6 (n = 25)	$\bar{X}$	3.44	3.32	3.24	3.56	3.28	3.40	3.37
	s	.80	.93	.81	.75	.83	1.02	.87
Totals (n = 131)	$\bar{X}$	3.39	3.28	3.39	3.59	3.57	3.60	3.47
	s	.94	1.10	1.13	1.04	1.08	1.17	1.09
F value		<1	1.05	1.02	<1	1.59	1.59	

greatest difference appears between a mean of 3.00 for grade 1 teachers and a mean of 4.14 for kindergarten teachers.

For the hypothesis tested, none of the materials characteristics of science slide sets exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with science slide sets.

Table 32 presents data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of social sciences slide sets by teaching assignment. With respect to the relevance of social sciences slide sets, the greatest difference appears between a mean of 3.10 for grade 1 teachers and a mean of 3.88 for kindergarten teachers; in sufficiency of social sciences slide sets, the greatest difference appears between a mean of 3.13 for kindergarten teachers and a mean of 3.70 for grade 3 teachers; in variety of social sciences slide sets, the greatest difference appears between a mean of 3.13 for kindergarten teachers and a mean of 3.80 for grade 1 teachers; in quality of social sciences slide sets, the greatest difference appears between a mean of 3.39 for grade 6 teachers and a mean of 3.85 for grade 3 teachers; in timeliness of social sciences slide sets, the greatest difference appears between a mean of 3.36 for grade 6 teachers and a mean of 3.85 for grade 3 teachers; and in physical condition of social sciences slide sets, the greatest difference appears between a mean of 3.50 for grade 6 teachers and a mean of 3.91 for grade 4 teachers.

For the hypothesis tested, none of the materials characteristics of social sciences slide sets exceeded the tabled value of F at the .01 level

Table 32. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of social sciences slide sets by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Sur	Var	Qual	Time	PC	Totals
Kindergarten (n = 8)	$\bar{X}$	3.88	3.13	3.13	3.63	3.38	3.63	3.46
	s	.93	.78	1.05	.86	.99	.86	.96
Grade 1 (n = 10)	$\bar{X}$	3.10	3.40	3.80	3.70	3.70	3.60	3.55
	s	1.04	1.02	.87	.78	1.00	1.11	1.01
Grade 2 (n = 21)	$\bar{X}$	3.57	3.29	3.52	3.76	3.71	3.76	3.60
	s	.73	.88	1.10	.87	.88	.97	.93
Grade 3 (n = 20)	$\bar{X}$	3.40	3.70	3.75	3.85	3.85	3.90	3.74
	s	.86	.78	.94	.79	.79	.89	.86
Grade 4 (n = 23)	$\bar{X}$	3.52	3.48	3.48	3.78	3.83	3.91	3.67
	s	.71	.93	.93	.72	.82	1.02	.88
Grade 5 (n = 14)	$\bar{X}$	3.64	3.29	3.14	3.57	3.43	3.86	3.49
	s	1.04	1.03	1.12	.73	1.05	.83	1.01
Grade 6 (n = 28)	$\bar{X}$	3.21	3.18	3.14	3.39	3.36	3.50	3.30
	s	.86	.97	.91	.98	.89	.94	.94
Totals (n = 124)	$\bar{X}$	3.44	3.36	3.42	3.66	3.62	3.74	3.54
	s	.88	.94	1.02	.85	.92	.97	.94
F value		1.11	<1	1.27	<1	1.02	<1	

of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with social sciences slide sets.

Table 33 indicates data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of mathematics slide sets by teaching assignment. With respect to the relevance of mathematics slide sets, the greatest difference appears between a mean of 3.17 for grade 1 teachers and a mean of 4.50 for kindergarten teachers; in sufficiency of mathematics slide sets, the greatest difference appears between a mean of 3.14 for grade 6 teachers and a mean of 4.14 for grade 4 teachers; in variety of mathematics slide sets, the greatest difference appears between a mean of 3.07 for grade 6 teachers and a mean of 4.50 for kindergarten teachers; in quality of mathematics slide sets, the greatest difference appears between a mean of 3.33 for grade 1 teachers and a mean of 4.50 for kindergarten teachers; in timeliness of mathematics slide sets, the greatest difference appears between a mean of 3.50 for grade 1 and grade 6 teachers and a mean of 4.43 for grade 4 teachers; and in physical condition of mathematics slide sets, the greatest difference appears between a mean of 3.44 for grade 5 teachers and a mean of 4.50 for kindergarten teachers.

For the hypothesis tested, none of the materials characteristics of mathematics slide sets exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with mathematics slide sets.

Table 34 presents data concerned with the perceptions of elementary

Table 33. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of mathematics slide sets by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 2)	$\bar{X}$	4.50	4.00	4.50	4.50	4.00	4.50	4.33
	s	.50	1.00	.50	.50	1.00	.50	.75
Grade 1 (n = 6)	$\bar{X}$	3.17	3.33	3.67	3.33	3.50	3.50	3.42
	s	.37	.75	.75	.94	.96	1.12	.86
Grade 2 (n = 11)	$\bar{X}$	3.55	3.73	3.91	3.82	4.18	4.27	3.91
	s	.66	.86	.79	.94	.83	.86	.87
Grade 3 (n = 8)	$\bar{X}$	3.50	3.75	4.00	4.00	4.13	4.00	3.90
	s	.50	1.09	.87	.71	1.05	1.00	.92
Grade 4 (n = 7)	$\bar{X}$	3.71	4.14	4.29	4.14	4.43	4.43	4.19
	s	.45	.83	.70	.64	.73	.90	.76
Grade 5 (n = 9)	$\bar{X}$	3.22	3.67	3.67	3.67	3.67	3.44	3.56
	s	.42	.82	.67	1.05	1.05	.96	.87
Grade 6 (n = 14)	$\bar{X}$	3.64	3.14	3.07	3.50	3.50	3.79	3.44
	s	.81	1.12	.80	.63	.63	.86	.86
Totals (n = 57)	$\bar{X}$	3.53	3.60	3.72	3.75	3.88	3.93	3.73
	s	.65	1.01	.87	.86	.94	.99	.91
F value		1.63	<1	2.62	1.04	1.33	1.25	

Table 34. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of language arts slide sets by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 4)	$\bar{X}$	3.50	4.00	4.25	3.75	4.25	2.50	3.88
	s	.50	.00	.43	.43	.43	.50	.53
Grade 1 (n = 7)	$\bar{X}$	3.71	3.71	4.00	3.57	4.00	3.86	3.81
	s	.70	.70	.76	.49	.93	.83	.76
Grade 2 (n = 15)	$\bar{X}$	3.73	3.67	3.73	3.67	3.93	3.80	3.76
	s	.85	.70	.85	.87	1.06	1.11	.92
Grade 3 (n = 12)	$\bar{X}$	3.58	3.67	4.17	4.17	4.25	4.42	4.04
	s	.86	.75	.80	.69	.60	.64	.79
Grade 4 (n = 16)	$\bar{X}$	3.75	3.31	3.56	3.69	3.75	4.13	3.70
	s	1.03	1.10	1.06	.98	1.09	1.22	1.11
Grade 5 (n = 9)	$\bar{X}$	3.56	3.11	3.33	3.56	3.67	3.56	3.46
	s	1.07	.87	.82	.68	1.05	1.26	.99
Grade 6 (n = 15)	$\bar{X}$	3.27	3.27	3.07	3.07	3.47	3.47	3.27
	s	.57	1.24	1.06	.77	.88	.72	.92
Totals (n = 78)	$\bar{X}$	3.59	3.47	3.64	3.62	3.85	3.86	3.67
	s	.87	.96	.99	.85	.98	1.03	.96
F value		<1	<1	2.16	2.07	<1	1.35	

classroom teachers regarding the materials characteristics of language arts slide sets by teaching assignment. With respect to the relevance of language arts slide sets, the greatest difference appears between a mean of 3.27 for grade 6 teachers and a mean of 3.75 for grade 4 teachers; in sufficiency of language arts slide sets, the greatest difference appears between a mean of 3.11 for grade 5 teachers and a mean of 4.00 for kindergarten teachers; in variety of language arts slide sets, the greatest difference appears between a mean of 3.07 for grade 6 teachers and a mean of 4.25 for kindergarten teachers; in quality of language arts slide sets, the greatest difference appears between a mean of 3.07 for grade 6 teachers and a mean of 4.17 for grade 3 teachers; in timeliness of language arts slide sets, the greatest difference appears between a mean of 3.47 for grade 6 teachers and a mean of 4.25 for kindergarten and grade 3 teachers; and in physical condition of language arts slide sets, the greatest difference appears between a mean of 3.47 for grade 6 teachers and a mean of 4.42 for grade 3 teachers.

For the hypothesis tested, none of the materials characteristics of language arts slide sets exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with language arts slide sets.

Table 35 presents data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of science disc recordings by teaching assignment. With respect to the relevance of science disc recordings, the greatest difference appears between a mean of

Table 35. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of science disc recordings by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 10)	$\bar{X}$	3.40	3.30	3.40	3.70	3.80	3.60	3.53
	s	.49	.64	.80	.64	.75	.66	.69
Grade 1 (n = 15)	$\bar{X}$	3.47	3.20	3.20	3.40	3.40	3.47	3.36
	s	.81	1.11	1.17	1.25	1.14	1.26	1.14
Grade 2 (n = 16)	$\bar{X}$	3.38	3.13	3.19	3.50	3.44	3.63	3.38
	s	1.17	1.22	1.13	1.22	1.12	1.22	1.19
Grade 3 (n = 23)	$\bar{X}$	3.39	3.30	3.04	3.39	3.61	3.74	3.41
	s	.87	1.20	1.40	1.09	1.34	1.29	1.23
Grade 4 (n = 24)	$\bar{X}$	3.50	3.42	3.58	3.67	3.71	3.79	3.61
	s	1.04	1.41	1.32	1.31	1.43	1.41	1.33
Grade 5 (n = 18)	$\bar{X}$	3.44	3.33	3.56	4.22	4.17	4.00	3.79
	s	1.07	1.20	1.01	.79	.83	1.15	1.08
Grade 6 (n = 19)	$\bar{X}$	3.68	3.32	3.16	3.63	3.47	3.47	3.46
	s	.80	.73	1.14	.74	.99	.82	.90
Totals (n = 125)	$\bar{X}$	3.47	3.30	3.30	3.64	3.66	3.69	3.51
	s	.94	1.15	1.21	1.10	1.18	1.20	1.14
F value		<1	<1	<1	1.21	<1	<1	

3.38 for grade 2 teachers and a mean of 3.68 for grade 6 teachers; in sufficiency of science disc recordings, the greatest difference appears between a mean of 3.13 for grade 2 teachers and a mean of 3.42 for grade 4 teachers; in variety of science disc recordings, the greatest difference appears between a mean of 3.04 for grade 3 teachers and a mean of 3.58 for grade 4 teachers; in quality of science disc recordings, the greatest difference appears between a mean of 3.39 for grade 3 teachers and a mean of 4.22 for grade 5 teachers; in timeliness of science disc recordings, the greatest difference appears between a mean of 3.40 for grade 1 teachers and a mean of 4.17 for grade 5 teachers; and in physical condition of science disc recordings, the greatest difference appears between a mean of 3.47 for grade 1 and grade 6 teachers and a mean of 4.00 for grade 5 teachers.

For the hypothesis tested, none of the materials characteristics of science disc recordings exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with science disc recordings.

Table 36 presents data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of social sciences disc recordings by teaching assignment. With respect to the relevance of social sciences disc recordings, the greatest difference appears between a mean of 3.12 for grade 6 teachers and a mean of 3.58 for grade 1 teachers; in sufficiency of social sciences disc recordings, the greatest difference appears between a mean of 3.12 for grade 6 teachers and a mean of 3.59 for grade 4 teachers; in variety of social sciences disc recordings,

Table 36. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of social sciences disc recordings by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 7)	$\bar{X}$	3.57	3.14	3.29	3.29	3.57	3.29	3.36
	s	.90	.83	.88	.70	.73	.70	.81
Grade 1 (n = 12)	$\bar{X}$	3.58	3.50	3.67	3.92	3.58	3.67	3.65
	s	.64	.50	.85	.76	.95	.85	.78
Grade 2 (n = 14)	$\bar{X}$	3.43	3.43	3.79	4.00	4.00	4.29	3.82
	s	.62	.90	.94	.76	.76	.80	.86
Grade 3 (n = 18)	$\bar{X}$	3.17	3.28	3.11	3.44	3.44	3.61	3.34
	s	1.07	1.37	1.29	1.38	1.46	1.38	1.34
Grade 4 (n = 17)	$\bar{X}$	3.53	3.59	3.94	4.29	4.12	4.35	3.97
	s	.78	1.14	.94	.82	.76	1.03	.97
Grade 5 (n = 16)	$\bar{X}$	3.50	3.19	3.13	3.69	3.63	3.75	3.48
	s	1.06	1.24	1.17	1.10	1.27	1.52	1.26
Grade 6 (n = 17)	$\bar{X}$	3.12	3.12	3.06	3.47	3.24	3.35	3.23
	s	1.08	1.08	1.21	.98	1.11	.90	1.07
Totals (n = 101)	$\bar{X}$	3.39	3.33	3.42	3.75	3.65	3.79	3.55
	s	.93	1.10	1.14	1.05	1.12	1.17	1.10
F value		<1	<1	1.68	1.70	1.23	1.85	

the greatest difference appears between a mean of 3.06 for grade 6 teachers and a mean of 3.94 for grade 4 teachers; in quality of social sciences disc recordings, the greatest difference appears between a mean of 3.29 for kindergarten teachers and a mean of 4.29 for grade 4 teachers; in timeliness of social sciences disc recordings, the greatest difference appears between a mean of 3.24 for grade 6 teachers and a mean of 4.12 for grade 4 teachers; and in physical condition of social sciences disc recordings, the greatest difference appears between a mean of 3.29 for kindergarten teachers and a mean of 4.35 for grade 4 teachers.

For the hypothesis tested, none of the materials characteristics of social sciences disc recordings exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with social sciences disc recordings.

Table 37 indicates data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of mathematics disc recordings by teaching assignment. With respect to the relevance of mathematics disc recordings, the greatest difference appears between a mean of 3.43 for grade 5 teachers and a mean of 3.67 for kindergarten and grade 3 teachers; in sufficiency of mathematics disc recordings, the greatest difference appears between a mean of 3.00 for kindergarten teachers and a mean of 4.40 for grade 4 teachers; in variety of mathematics disc recordings, the greatest difference appears between a mean of 3.33 for kindergarten teachers and a mean of 4.60 for grade 4 teachers; in quality of mathematics disc recordings, the greatest difference appears between a

Table 37. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of mathematics disc recordings by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 3)	$\bar{X}$	3.67	3.00	3.33	4.00	4.00	4.00	3.67
	s	.47	.82	.47	.82	.82	.82	.82
Grade 1 (n = 5)	$\bar{X}$	3.60	3.80	3.80	4.00	3.80	4.00	3.83
	s	1.02	.98	.75	.89	.75	.89	.90
Grade 2 (n = 6)	$\bar{X}$	3.50	4.00	4.17	4.00	4.33	4.33	4.06
	s	.76	.82	.90	.82	.94	.94	.91
Grade 3 (n = 6)	$\bar{X}$	3.67	3.17	3.67	3.83	3.83	3.83	3.67
	s	.47	1.57	1.49	1.34	1.34	1.07	1.29
Grade 4 (n = 5)	$\bar{X}$	3.60	4.40	4.60	4.60	4.80	5.00	4.50
	s	.49	.80	.80	.49	.40	.00	.72
Grade 5 (n = 7)	$\bar{X}$	3.43	3.57	4.00	4.14	4.29	4.14	3.93
	s	.90	1.18	.76	1.12	.88	.83	1.01
Grade 6 (n = 8)	$\bar{X}$	3.50	3.50	3.50	4.13	3.63	4.00	3.71
	s	.87	1.32	1.12	1.05	.70	.87	1.04
Totals (n = 40)	$\bar{X}$	3.55	3.65	3.88	4.10	4.08	4.18	3.90
	s	.77	1.22	1.05	1.02	.96	.92	1.03
F value		<1	<1	<1	<1	1.01	<1	

mean of 3.83 for grade 3 teachers and a mean of 4.60 for grade 4 teachers; in timeliness of mathematics disc recordings, the greatest difference appears between a mean of 3.63 for grade 6 teachers and a mean of 4.80 for grade 4 teachers; and in physical condition of mathematics disc recordings, the greatest difference appears between a mean of 3.83 for grade 3 teachers and a mean of 5.00 for grade 4 teachers.

For the hypothesis tested, none of the materials characteristics of mathematics disc recordings exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with mathematics disc recordings.

Table 38 presents data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of language arts disc recordings by teaching assignment. With respect to the relevance of language arts disc recordings, the greatest difference appears between a mean of 3.43 for grade 6 teachers and a mean of 3.85 for grade 5 teachers; in sufficiency of language arts disc recordings, the greatest difference appears between a mean of 3.16 for kindergarten teachers and a mean of 3.65 for grade 5 teachers; in variety of language arts disc recordings, the greatest difference appears between a mean of 3.11 for kindergarten teachers and a mean of 3.62 for grade 4 teachers; in quality of language arts disc recordings, the greatest difference appears between a mean of 3.63 for kindergarten teachers and a mean of 4.04 for grade 3 teachers; in timeliness of language arts disc recordings, the greatest difference appears between a mean of 3.53 for kindergarten teachers and a

Table 38. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of language arts disc recordings by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 19)	$\bar{X}$	3.63	3.16	3.11	3.63	3.53	3.63	3.45
	s	.74	.74	.72	.74	.75	.67	.76
Grade 1 (n = 20)	$\bar{X}$	3.75	3.55	3.40	3.65	3.55	3.65	3.59
	s	.70	.67	.80	.85	.80	.73	.77
Grade 2 (n = 18)	$\bar{X}$	3.50	3.61	3.56	3.83	4.06	3.94	3.75
	s	.60	.76	.90	.60	.70	.85	.77
Grade 3 (n = 26)	$\bar{X}$	3.69	3.62	3.42	4.04	4.04	4.04	3.81
	s	.67	.88	1.12	.76	.76	.76	.87
Grade 4 (n = 21)	$\bar{X}$	3.71	3.62	3.62	3.86	3.95	4.10	3.81
	s	.70	1.00	.95	.71	.84	.81	.86
Grade 5 (n = 20)	$\bar{X}$	3.85	3.65	3.25	3.95	3.90	4.00	3.77
	s	1.01	1.15	1.22	.92	.94	1.10	1.09
Grade 6 (n = 28)	$\bar{X}$	3.43	3.25	3.43	3.71	3.64	3.71	3.53
	s	.90	1.09	.82	.80	.77	.80	.89
Totals (n = 152)	$\bar{X}$	3.65	3.49	3.40	3.82	3.81	3.87	3.67
	s	.79	.95	.96	.79	.83	.84	.88
F value		<1	<1	<1	<1	1.67	1.17	

mean of 4.06 for grade 2 teachers; and in physical condition of language arts disc recordings, the greatest difference appears between a mean of 3.63 for kindergarten teachers and a mean of 4.10 for grade 4 teachers.

For the hypothesis tested, none of the materials characteristics of language arts disc recordings exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with language arts disc recordings.

Table 39 indicates data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of science tape recordings by teaching assignment. With respect to the relevance of science tape recordings, the greatest difference appears between a mean of 3.05 for grade 2 teachers and a mean of 4.00 for grade 5 teachers; in sufficiency of science tape recordings, the greatest difference appears between a mean of 3.11 for grade 2 teachers and a mean of 3.71 for grade 4 teachers; in variety of science tape recordings, the greatest difference appears between a mean of 3.11 for grade 2 teachers and a mean of 3.79 for grade 4 teachers; in quality of science tape recordings, the greatest difference appears between a mean of 3.41 for grade 1 teachers and a mean of 4.00 for grade 5 teachers; in timeliness of science tape recordings, the greatest difference appears between a mean of 3.47 for grade 2 teachers and a mean of 3.96 for grade 4 teachers; and in physical condition of science tape recordings, the greatest difference appears between a mean of 3.58 for grade 2 teachers and a mean of 4.17 for grade 5 teachers.

For the hypothesis tested, none of the materials characteristics of

Table 39. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of science tape recordings by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 13)	$\bar{X}$	3.08	3.15	3.23	3.54	3.54	3.62	3.36
	s	.83	.86	.89	1.08	1.01	1.08	.99
Grade 1 (n = 17)	$\bar{X}$	3.47	3.29	3.24	3.41	3.59	3.59	3.43
	s	.85	1.18	1.26	1.24	1.14	1.14	1.15
Grade 2 (n = 19)	$\bar{X}$	3.05	3.11	3.11	3.58	3.47	3.58	3.32
	s	1.15	1.25	1.12	1.09	1.09	1.14	1.16
Grade 3 (n = 30)	$\bar{X}$	3.57	3.47	3.53	3.47	3.60	3.83	3.58
	s	.80	.92	1.06	.92	.95	.97	.95
Grade 4 (n = 28)	$\bar{X}$	3.54	3.71	3.79	3.89	3.96	4.04	3.82
	s	1.12	1.16	1.05	1.01	1.18	1.09	1.11
Grade 5 (n = 18)	$\bar{X}$	4.00	3.44	3.56	4.00	3.94	4.17	3.85
	s	.88	1.17	1.17	1.20	1.03	.90	1.10
Grade 6 (n = 18)	$\bar{X}$	3.67	3.17	3.33	3.50	3.56	3.67	3.48
	s	.47	.96	.75	.83	.68	.75	.78
Totals (n = 143)	$\bar{X}$	3.50	3.38	3.44	3.64	3.69	3.81	3.58
	s	.95	1.10	1.08	1.07	1.05	1.04	1.06
F value		2.16	<1	1.06	<1	<1	<1	

science tape recordings exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with science tape recordings.

Table 40 indicates data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of social sciences tape recordings by teaching assignment. With respect to the relevance of social sciences tape recordings, the greatest difference appears between a mean of 3.42 for grade 5 teachers and a mean of 3.68 for grade 4 teachers; in sufficiency of social sciences tape recordings, the greatest difference appears between a mean of 3.13 for kindergarten teachers and a mean of 3.69 for grade 2 teachers; in variety of social sciences tape recordings, the greatest difference appears between a mean of 3.00 for grade 5 teachers and a mean of 3.92 for grade 2 teachers; in quality of social sciences tape recordings, the greatest difference appears between a mean of 3.36 for grade 6 teachers and a mean of 3.95 for grade 4 teachers; in timeliness of social sciences tape recordings, the greatest difference appears between a mean of 3.38 for kindergarten teachers and a mean of 4.08 for grade 2 teachers; and in physical condition of social sciences tape recordings, the greatest difference appears between a mean of 3.50 for kindergarten teachers and a mean of 4.31 for grade 2 teachers.

For the hypothesis tested, none of the materials characteristics of social sciences tape recordings exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with social sciences tape recordings.

Table 40. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of social sciences tape recordings by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 8)	$\bar{X}$	3.63	3.13	3.13	3.50	3.38	3.50	3.38
	s	.99	.78	.93	.87	.86	.87	.90
Grade 1 (n = 11)	$\bar{X}$	3.46	3.64	3.55	3.55	3.91	3.82	3.65
	s	.78	.64	.89	.89	.79	.83	.83
Grade 2 (n = 13)	$\bar{X}$	3.46	3.69	3.92	3.92	4.08	4.31	3.90
	s	.93	.82	.92	.83	.73	.72	.87
Grade 3 (n = 18)	$\bar{X}$	3.56	3.67	3.61	3.67	4.00	4.00	3.75
	s	.96	.88	1.01	.94	1.11	.82	.97
Grade 4 (n = 19)	$\bar{X}$	3.68	3.58	3.47	3.95	3.95	4.16	3.80
	s	.65	.82	.99	.76	.89	.99	.89
Grade 5 (n = 19)	$\bar{X}$	3.42	3.21	3.00	3.42	3.58	3.68	3.39
	s	.82	.77	.92	.82	.88	.92	.88
Grade 6 (n = 22)	$\bar{X}$	3.46	3.55	3.14	3.36	3.41	3.59	3.42
	s	1.08	.99	1.01	.88	.98	.94	.99
Totals (n = 110)	$\bar{X}$	3.52	3.51	3.38	3.62	3.76	3.87	3.61
	s	.90	.86	1.01	.88	.96	.93	.94
F value		<1	<1	1.65	1.21	1.44	1.56	

Table 41 indicates data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of mathematics tape recordings by teaching assignment. With respect to the relevance of mathematics tape recordings, the greatest difference appears between a mean of 3.27 for grade 5 teachers and a mean of 3.92 for grade 3 teachers; in sufficiency of mathematics tape recordings, the greatest difference appears between a mean of 3.27 for grade 5 teachers and a mean of 4.25 for grade 4 teachers; in variety of mathematics tape recordings, the greatest difference appears between a mean of 3.27 for grade 5 teachers and a mean of 4.13 for grade 4 teachers; in quality of mathematics tape recordings, the greatest difference appears between a mean of 3.70 for grade 2 and grade 6 teachers and a mean of 4.00 for grade 1, grade 3, and grade 4 teachers; in timeliness of mathematics tape recordings, the greatest difference appears between a mean of 3.50 for kindergarten and grade 6 teachers and a mean of 4.25 for grade 4 teachers; and in physical condition of mathematics tape recordings, the greatest difference appears between a mean of 3.50 for grade 6 teachers and a mean of 4.63 for grade 4 teachers.

For the hypothesis tested, none of the materials characteristics of mathematics tape recordings exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with mathematics tape recordings.

Table 42 presents data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of language

Table 41. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of mathematics tape recordings by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 4)	$\bar{X}$	3.75	3.50	3.50	3.75	3.50	3.75	3.63
	s	.83	1.12	.87	.83	.87	.83	.90
Grade 1 (n = 7)	$\bar{X}$	3.71	4.14	3.71	4.00	3.86	4.29	3.95
	s	.70	.64	1.03	.76	.64	.70	.79
Grade 2 (n = 10)	$\bar{X}$	3.40	3.30	3.50	3.70	4.10	3.90	3.65
	s	.49	.78	.92	.64	.83	.94	.83
Grade 3 (n = 12)	$\bar{X}$	3.92	4.00	3.50	4.00	4.00	3.92	3.89
	s	.86	.71	1.26	.71	.71	.76	.87
Grade 4 (n = 8)	$\bar{X}$	3.63	4.25	4.13	4.00	4.25	4.63	4.15
	s	.70	.83	.78	.71	.66	.70	.79
Grade 5 (n = 11)	$\bar{X}$	3.27	3.27	3.27	3.91	4.00	3.64	3.56
	s	.62	1.21	1.14	1.16	.95	.88	1.06
Grade 6 (n = 10)	$\bar{X}$	3.60	3.90	3.60	3.70	3.50	3.50	3.63
	s	.66	.70	.80	1.10	.81	1.12	.89
Totals (n = 62)	$\bar{X}$	3.60	3.76	3.58	3.87	3.92	3.92	3.77
	s	.73	.95	1.04	.89	.83	.94	.91
F value		<1	1.74	<1	<1	<1	1.50	

Table 42. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of language arts tape recordings by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 14)	$\bar{X}$	3.43	3.00	3.29	3.36	3.43	3.43	3.32
	s	.82	.85	.80	.61	.90	.90	.83
Grade 1 (n = 20)	$\bar{X}$	3.75	3.40	3.70	3.80	3.75	4.05	3.74
	s	.77	.86	.84	.75	.83	.67	.81
Grade 2 (n = 18)	$\bar{X}$	3.44	3.00	3.17	3.50	3.61	3.67	3.40
	s	.83	1.05	1.17	1.17	1.21	1.29	1.15
Grade 3 (n = 25)	$\bar{X}$	3.72	3.52	3.56	3.92	3.84	4.00	3.76
	s	.66	.90	1.02	.63	.73	.63	.80
Grade 4 (n = 20)	$\bar{X}$	3.90	3.90	3.75	4.00	4.05	4.25	3.98
	s	.77	.77	.89	.84	.80	.99	.86
Grade 5 (n = 18)	$\bar{X}$	3.67	3.39	3.22	3.72	3.67	3.72	3.57
	s	.75	1.06	1.03	1.04	.94	.93	.98
Grade 6 (n = 17)	$\bar{X}$	3.71	3.41	3.41	3.35	3.47	3.65	3.50
	s	.75	1.19	.84	.59	.92	.76	.87
Totals (n = 132)	$\bar{X}$	3.67	3.40	3.46	3.70	3.71	3.86	3.63
	s	.77	1.00	.98	.86	.93	.93	.93
F value		<1	1.80	1.06	1.76	<1	1.70	

arts tape recordings by teaching assignment. With respect to the relevance of language arts tape recordings, the greatest difference appears between a mean of 3.43 for kindergarten teachers and a mean of 3.90 for grade 4 teachers; in sufficiency of language arts tape recordings, the greatest difference appears between a mean of 3.00 for kindergarten and grade 2 teachers and a mean of 3.90 for grade 4 teachers; in variety of language arts tape recordings, the greatest difference appears between a mean of 3.17 for grade 2 teachers and a mean of 3.75 for grade 4 teachers; in quality of language arts tape recordings, the greatest difference appears between a mean of 3.35 for grade 6 teachers and a mean of 4.00 for grade 4 teachers; in timeliness of language arts tape recordings, the greatest difference appears between a mean of 3.43 for kindergarten teachers and a mean of 4.05 for grade 4 teachers; and in physical condition of language arts tape recordings, the greatest difference appears between a mean of 3.43 for kindergarten teachers and a mean of 4.25 for grade 4 teachers.

For the hypothesis tested, none of the materials characteristics of language arts tape recordings exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with language arts tape recordings.

Table 43 indicates data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of science transparencies by teaching assignment. With respect to the relevance of science transparencies, the greatest difference appears between a mean of

Table 43. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of science transparencies by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 14)	$\bar{X}$	3.50	3.36	3.36	3.64	3.64	4.00	3.58
	s	.98	.81	.97	.81	.72	.86	.88
Grade 1 (n = 26)	$\bar{X}$	3.35	3.23	3.27	3.46	3.62	3.65	3.43
	s	.96	.70	.98	.93	.96	.96	.93
Grade 2 (n = 31)	$\bar{X}$	3.45	3.00	3.13	3.58	3.61	3.55	3.39
	s	1.01	1.05	1.04	.94	.90	.98	1.02
Grade 3 (n = 38)	$\bar{X}$	3.47	3.00	3.16	3.40	3.40	3.40	3.30
	s	.88	1.03	1.16	1.09	1.14	1.04	1.07
Grade 4 (n = 40)	$\bar{X}$	3.60	3.48	3.38	3.73	3.75	3.85	3.63
	s	.99	1.07	1.11	1.02	1.09	1.06	1.07
Grade 5 (n = 38)	$\bar{X}$	3.66	3.37	3.61	3.74	3.68	3.76	3.64
	s	.98	1.13	.99	1.07	1.00	1.01	1.04
Grade 6 (n = 32)	$\bar{X}$	3.69	3.31	3.50	3.56	3.66	3.66	3.56
	s	.88	.95	.87	.70	.85	.89	.87
Totals (n = 219)	$\bar{X}$	3.54	3.25	3.35	3.59	3.62	3.67	3.50
	s	.96	1.02	1.05	.98	1.00	1.00	1.01
F value		<1	1.15	<1	<1	<1	1.08	

3.35 for grade 1 teachers and a mean of 3.69 for grade 6 teachers; in sufficiency of science transparencies, the greatest difference appears between a mean of 3.00 for grade 2 and grade 3 teachers and a mean of 3.48 for grade 4 teachers; in variety of science transparencies, the greatest difference appears between a mean of 3.13 for grade 2 teachers and a mean of 3.61 for grade 5 teachers; in quality of science transparencies, the greatest difference appears between a mean of 3.40 for grade 3 teachers and a mean of 3.74 for grade 5 teachers; in timeliness of science transparencies, the greatest difference appears between a mean of 3.40 for grade 3 teachers and a mean of 3.75 for grade 4 teachers; and in physical condition of science transparencies, the greatest difference appears between a mean of 3.40 for grade 3 teachers and a mean of 4.00 for kindergarten teachers.

For the hypothesis tested, none of the materials characteristics of science transparencies exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with science transparencies.

Table 44 indicates data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of social sciences transparencies by teaching assignment. With respect to the relevance of social sciences transparencies, the greatest difference appears between a mean of 3.38 for kindergarten teachers and a mean of 3.74 for grade 5 teachers; in sufficiency of social sciences transparencies, the greatest difference appears between a mean of 3.25 for kindergarten teachers and a mean of 3.50 for grade 4 teachers; in variety of social sciences transpar-

Table 44. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of social sciences transparencies by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 8)	$\bar{X}$	3.38	3.25	2.88	3.25	3.25	3.38	3.23
	s	.86	.83	1.05	.83	.83	.70	.87
Grade 1 (n = 15)	$\bar{X}$	3.60	3.40	3.80	3.67	3.87	3.73	3.68
	s	.71	.71	.91	.94	.72	.85	.83
Grade 2 (n = 21)	$\bar{X}$	3.48	3.43	3.57	3.76	3.76	3.86	3.64
	s	.66	.79	1.00	.75	.75	.83	.82
Grade 3 (n = 26)	$\bar{X}$	3.54	3.27	3.39	3.58	3.69	3.77	3.54
	s	.89	1.06	1.04	.97	.95	.85	.98
Grade 4 (n = 32)	$\bar{X}$	3.69	3.50	3.59	3.91	3.84	4.13	3.78
	s	.63	1.00	1.00	.88	.87	.82	.90
Grade 5 (n = 34)	$\bar{X}$	3.74	3.35	3.29	3.56	3.68	3.77	3.56
	s	.98	1.08	.92	.77	.90	1.00	.97
Grade 6 (n = 29)	$\bar{X}$	3.52	3.41	3.38	3.66	3.70	3.55	3.53
	s	.93	1.03	.96	.84	.95	.81	.93
Totals (n = 165)	$\bar{X}$	3.59	3.39	3.44	3.67	3.72	3.79	3.60
	s	.84	.98	1.00	.87	.88	.89	.92
F value		<1	<1	1.09	<1	<1	1.46	

encies, the greatest difference appears between a mean of 2.88 for kindergarten teachers and a mean of 3.80 for grade 1 teachers; in quality of social sciences transparencies, the greatest difference appears between a mean of 3.25 for kindergarten teachers and a mean of 3.91 for grade 4 teachers; in timeliness of social sciences transparencies, the greatest difference appears between a mean of 3.25 for kindergarten teachers and a mean of 3.87 for grade 1 teachers; and in physical condition of social sciences transparencies, the greatest difference appears between a mean of 3.38 for kindergarten teachers and a mean of 4.13 for grade 4 teachers.

For the hypothesis tested, none of the materials characteristics of social sciences transparencies exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with social sciences transparencies.

Table 45 presents data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of mathematics transparencies by teaching assignment. With respect to the relevance of mathematics transparencies, the greatest difference appears between a mean of 3.47 for grade 5 teachers and a mean of 4.11 for kindergarten teachers; in sufficiency of mathematics transparencies, the greatest difference appears between a mean of 3.11 for kindergarten teachers and a mean of 3.56 for grade 1 teachers; in variety of mathematics transparencies, the greatest difference appears between a mean of 3.10 for grade 5 teachers and a mean of 3.64 for grade 4 teachers; in quality of mathematics transparencies, the greatest difference appears between a mean of 3.67 for grade 5 teachers

Table 45. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of mathematics transparencies by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 9)	$\bar{X}$	4.11	3.11	3.22	3.78	3.67	3.78	3.61
	s	.57	.99	.79	.79	.67	.79	.85
Grade 1 (n = 18)	$\bar{X}$	3.67	3.56	3.56	3.78	3.67	3.78	3.67
	s	.75	.76	.76	.63	.58	.71	.71
Grade 2 (n = 21)	$\bar{X}$	3.67	3.33	3.33	3.71	3.71	3.86	3.60
	s	.71	.89	1.04	.63	.76	.77	.84
Grade 3 (n = 32)	$\bar{X}$	3.78	3.25	3.50	3.81	3.78	3.81	3.66
	s	.60	1.03	1.06	.68	.74	.77	.86
Grade 4 (n = 25)	$\bar{X}$	3.92	3.48	3.64	3.88	4.04	4.16	3.85
	s	.63	1.10	1.10	.77	.82	.88	.93
Grade 5 (n = 30)	$\bar{X}$	3.47	3.13	3.10	3.67	3.73	3.80	3.48
	s	.81	1.09	1.16	.87	1.03	.95	1.03
Grade 6 (n = 33)	$\bar{X}$	3.70	3.39	3.46	3.79	3.64	3.64	3.60
	s	.72	.98	.96	.73	.69	.77	.83
Totals (n = 168)	$\bar{X}$	3.72	3.33	3.41	3.77	3.76	3.83	3.64
	s	.71	1.01	1.04	.74	.80	.83	.88
F value		1.50	<1	<1	<1	<1	<1	

and a mean of 3.88 for grade 4 teachers; in timeliness of mathematics transparencies, the greatest difference appears between a mean of 3.64 for grade 6 teachers and a mean of 4.04 for grade 4 teachers; and in physical condition of mathematics transparencies, the greatest difference appears between a mean of 3.64 for grade 6 teachers and a mean of 4.16 for grade 4 teachers.

For the hypothesis tested, none of the materials characteristics of mathematics transparencies exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with mathematics transparencies.

Table 46 presents data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of language arts transparencies by teaching assignment. With respect to the relevance of language arts transparencies, the greatest difference appears between a mean of 3.43 for kindergarten teachers and a mean of 3.83 for grade 1 teachers; in sufficiency of language arts transparencies, the greatest difference appears between a mean of 3.29 for kindergarten teachers and a mean of 3.68 for grade 4 teachers; in variety of language arts transparencies, the greatest difference appears between a mean of 3.00 for kindergarten teachers and a mean of 3.77 for grade 6 teachers; in quality of language arts transparencies, the greatest difference appears between a mean of 3.57 for kindergarten teachers and a mean of 4.05 for grade 5 teachers; in timeliness of language arts transparencies, the greatest difference appears between a mean of 3.64 for grade 2 teachers and a mean of

Table 46. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of language arts transparencies by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 7)	$\bar{X}$	3.43	3.29	3.00	3.57	3.71	3.71	3.45
	s	.90	1.03	1.20	1.05	1.03	1.03	1.07
Grade 1 (n = 12)	$\bar{X}$	3.83	3.50	3.75	4.00	3.92	4.08	3.85
	s	.90	1.04	.92	1.00	.95	.76	.95
Grade 2 (n = 14)	$\bar{X}$	3.57	3.64	3.64	3.64	3.64	3.86	3.67
	s	.73	.81	.89	.81	1.04	1.12	.92
Grade 3 (n = 24)	$\bar{X}$	3.63	3.50	3.71	4.04	4.08	4.00	3.83
	s	.56	.82	.98	.61	.57	.65	.75
Grade 4 (n = 22)	$\bar{X}$	3.68	3.68	3.68	3.82	3.82	4.14	3.80
	s	.92	.76	1.02	.89	.89	1.01	.93
Grade 5 (n = 21)	$\bar{X}$	3.71	3.52	3.57	4.05	4.05	3.86	3.79
	s	.88	1.14	1.09	.90	.95	.99	1.02
Grade 6 (n = 22)	$\bar{X}$	3.77	3.64	3.77	3.77	3.73	3.64	3.72
	s	.73	1.15	.90	.95	1.01	.77	.93
Totals (n = 122)	$\bar{X}$	3.68	3.57	3.65	3.88	3.88	3.91	3.76
	s	.80	.97	1.01	.88	.92	.91	.93
F value		<1	<1	<1	<1	<1	<1	

4.08 for grade 3 teachers; and in physical condition of language arts transparencies, the greatest difference appears between a mean of 3.64 for grade 6 teachers and a mean of 4.14 for grade 4 teachers.

For the hypothesis tested, none of the materials characteristics of language arts transparencies exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with language arts transparencies.

Table 47 indicates data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of science study prints by teaching assignment. With respect to the relevance of science study prints, the greatest difference appears between a mean of 3.45 for grade 2 teachers and a mean of 3.86 for grade 3 teachers; in sufficiency of science study prints, the greatest difference appears between a mean of 3.04 for grade 5 teachers and a mean of 3.56 for grade 6 teachers; in variety of science study prints, the greatest difference appears between a mean of 3.14 for grade 2 teachers and a mean of 3.62 for grade 3 teachers; in quality of science study prints, the greatest difference appears between a mean of 3.59 for grade 2 teachers and a mean of 3.90 for grade 3 teachers; in timeliness of science study prints, the greatest difference appears between a mean of 3.68 for grade 6 teachers and a mean of 3.88 for kindergarten teachers; and in physical condition of science study prints, the greatest difference appears between a mean of 3.67 for grade 1 teachers and a mean of 3.88 for kindergarten teachers.

For the hypothesis tested, none of the materials characteristics of

Table 47. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of science study prints by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 16)	$\bar{X}$	3.69	3.38	3.31	3.81	3.88	3.88	3.66
	s	.77	.86	.98	.73	.87	.93	.88
Grade 1 (n = 24)	$\bar{X}$	3.63	3.38	3.29	3.75	3.83	3.67	3.59
	s	1.03	1.25	1.02	1.05	1.07	1.11	1.11
Grade 2 (n = 29)	$\bar{X}$	3.45	3.28	3.14	3.59	3.69	3.69	3.47
	s	1.07	1.34	1.17	.97	.99	1.02	1.12
Grade 3 (n = 29)	$\bar{X}$	3.86	3.45	3.62	3.90	3.69	3.76	3.71
	s	.86	.97	1.10	.80	1.05	1.07	.99
Grade 4 (n = 30)	$\bar{X}$	3.47	3.23	3.43	3.60	3.73	3.80	3.54
	s	1.18	1.33	1.31	1.28	1.34	1.33	1.31
Grade 5 (n = 27)	$\bar{X}$	3.52	3.04	3.30	3.63	3.74	3.70	3.49
	s	1.13	1.23	1.12	1.13	1.11	1.18	1.18
Grade 6 (n = 25)	$\bar{X}$	3.64	3.56	3.36	3.60	3.68	3.72	3.59
	s	.69	.75	.84	.57	.68	.87	.75
Totals (n = 180)	$\bar{X}$	3.60	3.32	3.36	3.69	3.74	3.74	3.57
	s	1.00	1.16	1.11	.98	1.05	1.10	1.08
F value		<1	<1	<1	<1	<1	<1	

science study prints exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with science study prints.

Table 48 presents data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of social sciences study prints by teaching assignment. With respect to the relevance of social sciences study prints, the greatest difference appears between a mean of 3.33 for grade 6 teachers and a mean of 3.96 for grade 4 teachers; in sufficiency of social sciences study prints, the greatest difference appears between a mean of 3.20 for grade 5 teachers and a mean of 3.86 for grade 4 teachers; in variety of social sciences study prints, the greatest difference appears between a mean of 3.30 for grade 5 teachers and a mean of 3.86 for grade 4 teachers; in quality of social sciences study prints, the greatest difference appears between a mean of 3.54 for grade 1 teachers and a mean of 4.14 for grade 4 teachers; in timeliness of social sciences study prints, the greatest difference appears between a mean of 3.52 for grade 6 teachers and a mean of 4.09 for grade 4 teachers; and in physical condition of social sciences study prints, the greatest difference appears between a mean of 3.62 for kindergarten teachers and a mean of 4.27 for grade 4 teachers.

For the hypothesis tested, none of the materials characteristics of social sciences study prints exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with social sciences study prints.

Table 48. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of social sciences study prints by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 13)	$\bar{X}$	3.92	3.62	3.31	3.77	3.62	3.62	3.64
	s	1.07	1.00	.99	.89	1.08	1.15	1.05
Grade 1 (n = 24)	$\bar{X}$	3.50	3.25	3.33	3.54	3.63	3.67	3.49
	s	.82	1.16	1.14	1.08	1.18	1.18	1.11
Grade 2 (n = 23)	$\bar{X}$	3.74	3.78	3.78	4.00	4.04	4.09	3.91
	s	.67	.83	.83	.66	.81	.83	.79
Grade 3 (n = 29)	$\bar{X}$	3.52	3.48	3.38	3.79	3.69	3.76	3.60
	s	.90	.90	.85	.76	.83	.86	.86
Grade 4 (n = 22)	$\bar{X}$	3.96	3.86	3.86	4.14	4.09	4.27	4.03
	s	.77	.87	.92	.76	.79	.86	.84
Grade 5 (n = 20)	$\bar{X}$	3.60	3.20	3.30	3.55	3.55	3.85	3.51
	s	.86	.93	1.05	.80	.97	1.06	.97
Grade 6 (n = 21)	$\bar{X}$	3.33	3.43	3.76	4.10	3.52	3.86	3.67
	s	1.08	1.14	1.27	.92	1.37	.94	1.16
Totals (n = 152)	$\bar{X}$	3.63	3.51	3.54	3.84	3.74	3.88	3.69
	s	.90	1.01	1.04	.87	1.04	1.00	.99
F value		1.31	1.38	1.29	1.75	1.10	1.14	

Table 49 indicates data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of mathematics study prints by teaching assignment. With respect to the relevance of mathematics study prints, the greatest difference appears between a mean of 2.60 for grade 1 teachers and a mean of 3.78 for grade 4 teachers; in sufficiency of mathematics study prints, the greatest difference appears between a mean of 3.20 for grade 5 teachers and a mean of 4.22 for grade 4 teachers; in variety of mathematics study prints, the greatest difference appears between a mean of 3.00 for kindergarten teachers and a mean of 4.00 for grade 2 and grade 3 teachers; in quality of mathematics study prints, the greatest difference appears between a mean of 3.60 for grade 1 teachers and a mean of 4.13 for grade 3 teachers; in timeliness of mathematics study prints, the greatest difference appears between a mean of 3.00 for grade 1 teachers and a mean of 4.38 for grade 2 teachers; and in physical condition of mathematics study prints, the greatest difference appears between a mean of 3.20 for grade 1 teachers and a mean of 4.56 for grade 4 teachers.

For the hypothesis tested, none of the materials characteristics of mathematics study prints exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with mathematics study prints.

Table 50 presents data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of language arts study prints, the greatest difference appears between a mean of 3.53 for grade 6 teachers and a mean of 4.07 for grade 2 teachers; insuffi-

Table 49. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of mathematics study prints by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 3)	$\bar{X}$	3.67	3.67	3.00	3.67	3.67	4.00	3.61
	s	.94	1.25	1.41	.94	.94	.82	1.11
Grade 1 (n = 5)	$\bar{X}$	2.60	3.40	3.40	3.60	3.00	3.20	3.20
	s	1.02	1.36	1.50	1.50	1.41	1.60	1.45
Grade 2 (n = 8)	$\bar{X}$	3.63	4.13	4.00	4.00	4.38	4.38	4.08
	s	.70	.78	.87	.71	.86	.86	.84
Grade 3 (n = 8)	$\bar{X}$	3.38	3.63	4.00	4.13	3.50	3.75	3.73
	s	.86	1.32	.87	.78	1.12	.83	1.02
Grade 4 (n = 9)	$\bar{X}$	3.78	4.22	3.78	4.00	4.22	4.56	4.09
	s	.63	.79	.92	.67	.79	.68	.80
Grade 5 (n = 10)	$\bar{X}$	3.40	3.20	3.20	3.80	3.80	3.40	3.47
	s	1.02	1.40	1.08	1.25	1.17	1.28	1.23
Grade 6 (n = 9)	$\bar{X}$	3.44	3.56	3.56	3.78	3.67	3.67	3.61
	s	.96	.83	.83	.92	.82	.94	.89
Totals (n = 52)	$\bar{X}$	3.44	3.69	3.62	3.89	3.81	3.87	3.72
	s	.93	1.17	1.08	.99	1.09	1.13	1.08
F value		<1	<1	<1	<1	1.17	1.54	

Table 50. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of language arts study prints by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 14)	$\bar{X}$	3.86	3.64	3.50	3.71	3.64	3.93	3.71
	s	91	.72	.98	.88	.97	.88	.91
Grade 1 (n = 13)	$\bar{X}$	3.54	3.39	3.39	3.46	3.77	3.69	3.54
	s	1.22	1.21	1.27	1.08	1.25	1.20	1.22
Grade 2 (n = 15)	$\bar{X}$	4.07	3.87	3.87	4.00	4.13	3.93	3.98
	s	.77	.62	.72	.73	.81	.85	.76
Grade 3 (n = 20)	$\bar{X}$	3.85	3.65	3.70	4.05	4.10	4.25	3.93
	s	.73	.73	1.10	.59	.62	.70	.79
Grade 4 (n = 21)	$\bar{X}$	3.67	3.52	3.43	3.81	3.76	3.95	3.69
	s	1.13	1.22	1.33	1.10	1.15	1.21	1.20
Grade 5 (n = 13)	$\bar{X}$	3.62	3.08	3.31	3.77	3.92	3.85	3.59
	s	1.08	1.21	.99	.89	1.14	1.10	1.11
Grade 6 (n = 17)	$\bar{X}$	3.53	3.53	3.77	3.53	3.71	3.71	3.63
	s	.70	.98	.64	.78	.75	.75	.78
Totals (n = 113)	$\bar{X}$	3.74	3.54	3.58	3.78	3.87	3.92	3.74
	s	.96	1.00	1.06	.90	.98	.99	.99
F value		<1	<1	<1	<1	<1	<1	

ciency of language arts study prints, the greatest difference appears between a mean of 3.08 for grade 5 teachers and a mean of 3.87 for grade 2 teachers; in variety of language arts study prints, the greatest difference appears between a mean of 3.31 for grade 5 teachers and a mean of 3.87 for grade 2 teachers; in quality of language arts study prints, the greatest difference appears between a mean of 3.46 for grade 1 teachers and a mean of 4.05 for grade 3 teachers; in timeliness of language arts study prints, the greatest difference appears between a mean of 3.64 for kindergarten teachers and a mean of 4.13 for grade 2 teachers; and in physical condition of language arts study prints, the greatest difference appears between a mean of 3.69 for grade 1 teachers and a mean of 4.25 for grade 3 teachers.

For the hypothesis tested, none of the materials characteristics of language arts study prints exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with language arts study prints.

Table 51 indicates data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of science multi-media kits by teaching assignment. With respect to the relevance of science multi-media kits, the greatest difference appears between a mean of 3.40 for grade 2 teachers and a mean of 4.11 for kindergarten teachers; in sufficiency of science multi-media kits, the greatest difference appears between a mean of 3.20 for grade 2 teachers and a mean of 3.81 for grade 6 teachers; in variety of science multi-media kits, the greatest

Table 51. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of science multi-media kits by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 18)	$\bar{X}$	4.11	3.67	3.22	4.06	4.06	4.17	3.88
	s	.81	.75	1.03	.62	.85	.69	.87
Grade 1 (n = 20)	$\bar{X}$	3.55	3.30	3.25	3.75	3.65	3.65	3.53
	s	1.07	1.00	.99	.99	1.11	1.15	1.07
Grade 2 (n = 25)	$\bar{X}$	3.40	3.20	3.12	3.68	3.68	3.80	3.48
	s	1.13	1.30	1.27	1.05	1.01	1.10	1.18
Grade 3 (n = 24)	$\bar{X}$	3.63	3.29	3.21	3.88	3.50	3.96	3.58
	s	.90	1.21	1.26	1.13	1.19	1.14	1.18
Grade 4 (n = 37)	$\bar{X}$	3.81	3.46	3.51	3.76	3.92	3.84	3.72
	s	1.27	1.37	1.33	1.24	1.32	1.35	1.32
Grade 5 (n = 15)	$\bar{X}$	3.87	3.40	3.67	4.27	4.00	4.33	3.92
	s	1.09	1.36	1.30	1.00	1.15	1.01	1.20
Grade 6 (n = 26)	$\bar{X}$	3.65	3.81	3.39	3.73	3.69	3.73	3.67
	s	.96	.73	1.15	.76	.77	.86	.89
Totals (n = 165)	$\bar{X}$	3.70	3.45	3.34	3.84	3.78	3.89	3.67
	s	1.09	1.17	1.22	1.03	1.11	1.11	1.14
F value		<1	<1	<1	<1	<1	<1	

difference appears between a mean of 3.12 for grade 2 teachers and a mean of 3.67 for grade 5 teachers; in quality of science multi-media kits, the greatest difference appears between a mean of 3.68 for grade 2 teachers and a mean of 4.27 for grade 5 teachers; in timeliness of science multi-media kits, the greatest difference appears between a mean of 3.50 for grade 3 teachers and a mean of 4.06 for kindergarten teachers; and in physical condition of science multi-media kits, the greatest difference appears between a mean of 3.65 for grade 1 teachers and a mean of 4.33 for grade 5 teachers.

For the hypothesis tested, none of the materials characteristics of science multi-media kits exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with science multi-media kits.

Table 52 presents data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of social sciences multi-media kits by teaching assignment. With respect to the relevance of social sciences multi-media kits, the greatest difference appears between a mean of 3.41 for grade 1 teachers and a mean of 3.93 for kindergarten teachers; in sufficiency of social sciences multi-media kits, the greatest difference appears between a mean of 3.00 for grade 5 teachers and a mean of 3.65 for grade 4 teachers; in variety of social sciences multi-media kits, the greatest difference appears between a mean of 3.10 for grade 6 teachers and a mean of 3.91 for grade 4 teachers; in quality of social sciences multi-media kits, the greatest difference appears between a mean of 3.38 for grade 6 teachers and a mean of 4.09 for grade 4

Table 52. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of social sciences multi-media kits by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 15)	$\bar{X}$	3.93	3.20	3.27	3.60	3.80	3.67	3.58
	s	.85	.75	.77	.88	.75	.70	.83
Grade 1 (n = 17)	$\bar{X}$	3.41	3.29	3.53	3.41	3.53	3.59	3.46
	s	1.03	.89	1.04	1.14	1.04	1.03	1.04
Grade 2 (n = 17)	$\bar{X}$	3.53	3.35	3.82	3.94	3.94	4.18	3.79
	s	.78	1.03	1.10	1.06	.94	.86	1.00
Grade 3 (n = 16)	$\bar{X}$	3.50	3.38	3.31	3.44	3.56	3.75	3.49
	s	1.00	1.22	1.36	1.32	1.41	1.35	1.29
Grade 4 (n = 23)	$\bar{X}$	3.87	3.65	3.91	4.09	4.00	4.17	3.95
	s	.68	.96	.93	.65	.72	.82	.82
Grade 5 (n = 16)	$\bar{X}$	3.69	3.00	3.19	3.81	3.94	3.75	3.56
	s	1.31	1.27	1.18	1.01	1.09	1.15	1.22
Grade 6 (n = 21)	$\bar{X}$	3.43	3.29	3.10	3.38	3.43	3.33	3.33
	s	1.09	.98	1.06	.90	.85	.94	.98
Totals (n = 125)	$\bar{X}$	3.62	3.33	3.46	3.68	3.74	3.78	3.60
	s	.99	1.04	1.11	1.03	1.00	1.03	1.05
F value		<1	<1	1.64	1.49	1.02	1.82	

teachers; in timeliness of social sciences multi-media kits, the greatest difference appears between a mean of 3.43 for grade 6 teachers and a mean of 4.00 for grade 4 teachers; and in physical condition of social sciences multi-media kits, the greatest difference appears between a mean of 3.33 for grade 6 teachers and a mean of 4.18 for grade 2 teachers.

For the hypothesis tested, none of the materials characteristics of social sciences multi-media kits exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with social sciences multi-media kits.

Table 53 indicates data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of mathematics multi-media kits by teaching assignment. With respect to the relevance of mathematics multi-media kits, the greatest difference appears between a mean of 3.36 for grade 4 teachers and a mean of 3.67 for kindergarten and grade 2 teachers; in sufficiency of mathematics multi-media kits, the greatest difference appears between a mean of 2.78 for grade 5 teachers and a mean of 4.00 for grade 4 teachers; in variety of mathematics multi-media kits, the greatest difference appears between a mean of 2.75 for grade 1 teachers and a mean of 3.82 for grade 4 teachers; in quality of mathematics multi-media kits, the greatest difference appears between a mean of 3.75 for grade 3 teachers and a mean of 4.11 for grade 2 teachers; in timeliness of mathematics multi-media kits, the greatest difference appears between a mean of 3.15 for grade 6 teachers and a mean of 4.33 for grade 2 teachers; and in physical condition of mathematics multi-media

Table 53. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of mathematics multimedia kits by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 6)	$\bar{X}$	3.67	3.17	2.83	4.00	4.17	4.00	3.64
	s	.94	.90	.69	.58	.69	.82	.92
Grade 1 (n = 8)	$\bar{X}$	3.50	3.25	2.75	3.88	3.75	3.88	3.50
	s	1.12	1.20	1.39	1.27	1.20	1.27	1.31
Grade 2 (n = 9)	$\bar{X}$	3.67	3.67	3.78	4.11	4.33	4.22	3.96
	s	.82	.94	1.03	.74	.82	.92	.92
Grade 3 (n = 8)	$\bar{X}$	3.50	3.50	3.13	3.75	3.50	3.63	3.50
	s	.87	1.00	1.69	1.09	1.22	.86	1.17
Grade 4 (n = 11)	$\bar{X}$	3.36	4.00	3.82	3.91	3.91	4.00	3.83
	s	1.07	.95	1.47	1.44	1.44	1.48	1.34
Grade 5 (n = 9)	$\bar{X}$	3.44	2.78	3.11	3.78	3.89	3.56	3.43
	s	1.07	1.47	1.37	1.31	1.45	1.34	1.40
Grade 6 (n = 13)	$\bar{X}$	3.46	3.54	3.39	3.77	3.15	3.46	3.46
	s	.75	.93	.92	.80	.95	1.01	.92
Totals (n = 64)	$\bar{X}$	3.50	3.45	3.31	3.88	3.77	3.80	3.62
	s	.95	1.13	1.32	1.10	1.22	1.17	1.17
F value		1.14	<1	<1	<1	1.07	<1	

kits, the greatest difference appears between a mean of 3.46 for grade 6 teachers and a mean of 4.22 for grade 2 teachers.

For the hypothesis tested, none of the materials characteristics of mathematics multi-media kits exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with mathematics multi-media kits.

Table 54 presents data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of language arts multi-media kits by teaching assignment. With respect to the relevance of language arts multi-media kits, the greatest difference appears between a mean of 3.46 for grade 6 teachers and a mean of 4.05 for grade 4 teachers; in sufficiency of language arts multi-media kits, the greatest difference appears between a mean of 3.27 for grade 5 teachers and a mean of 3.91 for grade 2 teachers; in variety of language arts multi-media kits, the greatest difference appears between a mean of 2.91 for grade 5 teachers and a mean of 3.91 for grade 2 teachers; in quality of language arts multi-media kits, the greatest difference appears between a mean of 3.46 for grade 6 teachers and a mean of 4.19 for grade 3 teachers; in timeliness of language arts multi-media kits, the greatest difference appears between a mean of 3.39 for grade 6 teachers and a mean of 4.27 for grade 2 teachers; and in physical condition of language arts multi-media kits, the greatest difference appears between a mean of 3.46 for grade 6 teachers and a mean of 4.27 for grade 2 teachers.

For the hypothesis tested, none of the materials characteristics of

Table 54. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of language arts multi-media kits by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 17)	$\bar{X}$	3.83	3.53	3.35	3.77	3.94	3.94	3.73
	s	.92	.78	.84	.81	.73	.80	.84
Grade 1 (n = 17)	$\bar{X}$	3.53	3.71	3.65	3.82	3.77	4.00	3.75
	3	1.09	.96	.97	.98	.81	1.03	.99
Grade 2 (n = 11)	$\bar{X}$	4.00	3.91	3.91	3.91	4.27	4.27	4.05
	s	.85	.79	1.00	.79	.86	.86	.88
Grade 3 (n = 16)	$\bar{X}$	3.69	3.38	3.38	4.19	4.25	4.19	3.84
	s	.85	1.05	1.22	.63	.66	.73	.96
Grade 4 (n = 19)	$\bar{X}$	4.05	3.90	3.90	4.11	4.21	4.26	4.07
	s	.76	.85	.85	.72	.69	.91	.81
Grade 5 (n = 11)	$\bar{X}$	3.64	3.27	2.91	3.64	3.64	3.82	3.49
	s	1.15	1.21	1.24	1.15	1.23	1.34	1.26
Grade 6 (n = 13)	$\bar{X}$	3.46	3.39	3.00	3.46	3.39	3.46	3.36
	s	.84	1.15	.88	1.15	1.08	.75	1.00
Totals (n = 104)	$\bar{X}$	3.75	3.60	3.47	3.87	3.94	4.01	3.78
	s	.95	1.00	1.06	.92	.91	.96	.98
F value		<1	<1	2.01	1.11	2.06	1.26	

language arts multi-media kits exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with language arts multi-media kits.

Table 55 indicates data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of science realia by teaching assignment. With respect to the relevance of science realia, the greatest difference appears between a mean of 3.25 for grade 2 teachers and a mean of 3.81 for grade 5 teachers; in sufficiency of science realia, the greatest difference appears between a mean of 3.13 for grade 1 and grade 2 teachers and a mean of 3.60 for grade 4 teachers; in variety of science realia, the greatest difference appears between a mean of 3.17 for grade 2 teachers and a mean of 3.65 for grade 4 teachers; in quality of science realia, the greatest difference appears between a mean of 3.33 for grade 1 teachers and a mean of 3.89 for grade 4 teachers; in timeliness of science realia, the greatest difference appears between a mean of 3.53 for grade 1 teachers and a mean of 3.97 for grade 4 teachers; and in physical condition of science realia, the greatest difference appears between a mean of 3.47 for grade 1 teachers and a mean of 3.95 for grade 4 teachers.

For the hypothesis tested, none of the materials characteristics of science realia exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with science realia.

Table 56 presents data concerned with the perceptions of elementary

Table 55. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of science realia by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 14)	$\bar{X}$	3.71	3.29	3.21	3.79	3.64	3.50	3.52
	s	.80	.88	1.01	.77	.89	1.12	.94
Grade 1 (n = 15)	$\bar{X}$	3.33	3.13	3.27	3.33	3.53	3.47	3.34
	s	.94	1.02	1.06	1.01	1.15	1.20	1.08
Grade 2 (n = 24)	$\bar{X}$	3.25	3.13	3.17	3.58	3.63	3.67	3.40
	s	1.16	1.17	1.03	1.11	1.03	1.11	1.13
Grade 3 (n = 24)	$\bar{X}$	3.75	3.46	3.58	3.75	3.67	3.92	3.69
	s	.72	.82	1.00	.88	1.03	.86	.90
Grade 4 (n = 37)	$\bar{X}$	3.76	3.60	3.65	3.89	3.97	3.95	3.80
	s	1.02	1.15	1.02	1.01	1.00	1.01	1.05
Grade 5 (n = 21)	$\bar{X}$	3.81	3.19	3.57	3.81	3.86	3.86	3.68
	s	.59	1.01	.85	.85	.83	.89	.88
Grade 6 (n = 30)	$\bar{X}$	3.47	3.30	3.50	3.53	3.60	3.50	3.48
	s	.72	.69	.62	.62	.71	.72	.69
Totals (n = 165)	$\bar{X}$	3.59	3.33	3.46	3.69	3.73	3.73	3.59
	s	.91	1.00	.96	.93	.96	.99	.97
F value		1.45	<1	<1	<1	<1	1.07	

Table 56. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of social sciences realia by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 11)	$\bar{X}$	3.73	3.09	3.27	3.64	3.64	3.64	3.50
	s	.86	.79	.86	.88	.88	.88	.89
Grade 1 (n = 12)	$\bar{X}$	3.58	3.50	3.67	3.83	3.92	3.92	3.74
	s	.64	.76	.75	.69	.76	.76	.75
Grade 2 (n = 20)	$\bar{X}$	3.60	3.30	3.30	3.60	3.65	3.70	3.53
	s	.73	.84	1.10	.80	.85	.95	.90
Grade 3 (n = 21)	$\bar{X}$	3.52	3.43	3.43	3.62	3.71	3.71	3.57
	s	.79	.95	1.05	.90	1.03	.98	.96
Grade 4 (n = 28)	$\bar{X}$	3.86	3.71	3.61	3.86	3.71	3.82	3.76
	s	.58	.80	.98	.87	.84	.93	.85
Grade 5 (n = 20)	$\bar{X}$	3.60	3.20	3.40	3.60	3.70	3.75	3.54
	s	.80	.98	.80	.86	.90	.83	.88
Grade 6 (n = 29)	$\bar{X}$	3.45	3.41	3.28	3.52	3.48	3.52	3.44
	s	.93	.85	.91	.77	.86	.77	.85
Totals (n = 141)	$\bar{X}$	3.62	3.41	3.42	3.66	3.67	3.71	3.58
	s	.79	.88	.95	.84	.89	.89	.88
F value		<1	1.05	<1	<1	<1	<1	

classroom teachers regarding the materials characteristics of social sciences realia by teaching assignment. With respect to the relevance of social sciences realia, the greatest difference appears between a mean of 3.45 for grade 6 teachers and a mean of 3.86 for grade 4 teachers; in sufficiency of social sciences realia, the greatest difference appears between a mean of 3.09 for kindergarten teachers and a mean of 3.71 for grade 4 teachers; in variety of social sciences realia, the greatest difference appears between a mean of 3.27 for kindergarten teachers and a mean of 3.67 for grade 1 teachers; in quality of social sciences realia, the greatest difference appears between a mean of 3.52 for grade 6 teachers and a mean of 3.86 for grade 4 teachers; in timeliness of social sciences realia, the greatest difference appears between a mean of 3.48 for grade 6 teachers and a mean of 3.92 for grade 1 teachers; and in physical condition of social sciences realia, the greatest difference appears between a mean of 3.52 for grade 6 teachers and a mean of 3.92 for grade 1 teachers.

For the hypothesis tested, none of the materials characteristics of social sciences realia exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with social sciences realia.

Table 57 indicates data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of math-

Table 57. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of mathematics realia by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 7)	$\bar{X}$	3.86	3.29	3.00	3.71	3.57	3.57	3.50
	s	.83	1.03	1.20	.70	.73	1.05	.98
Grade 1 (n = 7)	$\bar{X}$	4.00	3.57	3.43	3.71	3.43	4.00	3.69
	s	1.07	.90	1.29	1.03	.90	1.07	1.08
Grade 2 (n = 13)	$\bar{X}$	3.46	3.39	3.62	3.69	3.85	3.77	3.63
	s	.63	.84	.92	.72	.86	.97	.85
Grade 3 (n = 10)	$\bar{X}$	3.50	3.50	3.80	3.90	3.80	3.70	3.70
	s	.67	1.02	.87	.70	.75	.78	.82
Grade 4 (n = 12)	$\bar{X}$	3.92	4.00	4.00	4.17	4.08	4.25	4.07
	s	.76	1.00	1.08	.69	.86	1.09	.93
Grade 5 (n = 11)	$\bar{X}$	3.46	3.09	3.46	3.64	3.91	3.82	3.56
	s	.78	1.24	1.16	1.15	.90	1.03	1.09
Grade 6 (n = 10)	$\bar{X}$	3.70	3.70	3.30	3.50	3.50	3.40	3.52
	s	.78	.64	.78	1.20	.67	1.02	.88
Totals (n = 70)	$\bar{X}$	3.67	3.51	3.56	3.77	3.77	3.80	3.68
	s	.81	1.01	1.08	.93	.85	1.04	.96
F value		<1	<1	<1	<1	<1	<1	

ematics realia by teaching assignment. With respect to the relevance of mathematics realia, the greatest difference appears between a mean of 3.46 for grade 2 and grade 3 teachers and a mean of 4.00 for grade 1 teachers; in sufficiency of mathematics realia, the greatest difference appears between a mean of 3.09 for grade 5 teachers and a mean of 4.00 for grade 4 teachers; in variety of mathematics realia, the greatest difference appears between a mean of 3.00 for kindergarten teachers and a mean of 4.00 for grade 4 teachers; in quality of mathematics realia, the greatest difference appears between a mean of 3.50 for grade 6 teachers and a mean of 4.17 for grade 4 teachers; in timeliness of mathematics realia, the greatest difference appears between a mean of 3.43 for grade 1 teachers and a mean of 4.08 for grade 4 teachers; and in physical condition of mathematics realia, the greatest difference appears between a mean of 3.40 for grade 6 teachers and a mean of 4.25 for grade 4 teachers.

For the hypothesis tested, none of the materials characteristics of mathematics realia exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the hypothesis concerned with mathematics realia.

Table 58 indicates data concerned with the perceptions of elementary classroom teachers regarding the materials characteristics of language arts realia by teaching assignment. With respect to the relevance of language arts realia, the greatest difference appears between a mean of 3.00 for grade 1 teachers and a mean of 4.10 for grade 5

Table 58. Means and standard deviations of elementary classroom teachers' perceptions of materials characteristics of language arts realia by teaching assignment

Teaching Assignment		Materials Characteristics						
		Rel	Suf	Var	Qual	Time	PC	Totals
Kindergarten (n = 8)	$\bar{X}$	3.50	3.00	3.13	3.75	3.50	3.38	3.38
	s	.87	.71	.93	.97	1.12	.99	.97
Grade 1 (n = 10)	$\bar{X}$	3.00	3.00	3.20	3.20	3.40	3.30	3.18
	s	1.41	1.41	1.47	1.54	1.50	1.55	1.49
Grade 2 (n = 10)	$\bar{X}$	3.90	3.50	3.80	4.00	4.20	4.20	3.93
	s	.83	.50	.87	.89	.87	.75	.83
Grade 3 (n = 12)	$\bar{X}$	3.67	3.50	4.00	4.25	4.17	4.00	3.93
	s	.75	.96	.71	.72	.80	.82	.84
Grade 4 (n = 18)	$\bar{X}$	3.72	3.61	3.67	3.67	3.94	4.06	3.78
	s	1.28	1.21	1.29	1.25	1.27	1.31	1.28
Grade 5 (n = 10)	$\bar{X}$	4.10	3.80	3.70	4.00	4.40	4.30	4.05
	s	.70	.87	1.00	.89	.66	.90	.88
Grade 6 (n = 14)	$\bar{X}$	3.50	3.43	3.21	3.50	3.36	3.43	3.41
	s	.73	1.18	.94	.73	1.04	.73	.91
Totals (n = 82)	$\bar{X}$	3.63	3.44	3.55	3.76	3.86	3.83	3.68
	s	1.04	1.08	1.12	1.09	1.15	1.12	1.11
F value		1.14	<1	1.03	1.16	1.56	1.57	

teachers; in sufficiency of language arts realia, the greatest difference appears between a mean of 3.00 for kindergarten and grade 1 teachers and a mean of 3.80 for grade 5 teachers; in variety of language arts realia, the greatest difference appears between a mean of 3.13 for kindergarten teachers and a mean of 4.00 for grade 3 teachers; in quality of language arts realia, the greatest difference appears between a mean of 3.20 for grade 1 teachers and a mean of 4.25 for grade 3 teachers; in timeliness of language arts realia, the greatest difference appears between a mean of 3.36 for grade 6 teachers and a mean of 4.40 for grade 5 teachers; and in physical condition of language arts realia, the greatest difference appears between a mean of 3.30 for grade 1 teachers and a mean of 4.30 for grade 5 teachers.

For the hypothesis tested, none of the materials characteristics of language arts realia exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject that portion of the null hypothesis concerned with language arts realia.

Elementary Teacher Perceptions of Production Services

This portion of the findings will describe those perceptions of elementary classroom teachers regarding the quality of media which have been produced for them by the regional educational media centers. The data to be found in this section are the result of the teacher

responses to question 10 of the questionnaire (Appendix A). The teachers were asked to indicate those types of materials which had been produced for them at the areas' regional educational media centers. A list of known services was provided and the elementary classroom teachers were asked first to indicate those services which they had utilized, and secondly to rate each utilized service on a five-point scale (indicating poor to excellent).

Of the 1,047 elementary classroom teachers participating in the study, 42 (4.0 per cent) indicated utilizing printing services, 34 (3.2 per cent) indicated utilizing photographic services, 25 (2.4 per cent) indicated utilizing collating services, 24 (2.3 per cent) indicated utilizing binding services, 92 (8.8 per cent) indicated utilizing transparency making services, and 24 (3.3 per cent) indicated utilizing other services.

The rating for this question was concentrated in the "excellent" category at all grade levels for the limited number of elementary classroom teachers who used the services. Teachers at all grade levels appeared to be pleased with the production services which had been provided for them by the regional educational media centers. A list of production services designated as "Other" in question 10 will be found in Appendix B.

Media Delivery Services

This portion of the findings will describe the type and frequency of media delivery which elementary classroom teachers feel would be the most desirable in meeting their educational needs. The data to be found in this section are the synthesis of teacher responses to questions 11 and 12 of the questionnaire (Appendix A). The responses to the questions under consideration have been stratified in terms of teaching assignment. The listings of "Other" categories for interval of delivery and system of delivery will be found in Appendix B.

Table 59 indicates the perceptions of elementary classroom teachers concerning the most desirable interval of delivery when grouped by teaching assignment. Teachers at all grade levels indicated that the interval of delivery which was most desirable would be twice a week. This was evidenced by 38 responses (35.5 per cent) from kindergarten teachers, 53 responses (31.7 per cent) from grade 1 teachers, 57 responses (36.8 per cent) from grade 2 teachers, 62 responses (33.9 per cent) from grade 3 teachers, 61 responses (36.7 per cent) from grade 4 teachers, 54 responses (38.3 per cent) from grade 5 teachers, and 51 responses (39.8 per cent) from grade 6 teachers. It is interesting to note that teachers in the lower grades indicated a second choice of once a week for interval of delivery, while those in the upper elementary grades indicated the desirability of a daily (morning) delivery. This second choice of once a week was evidenced by 23 responses (21.5 per cent) from kindergarten teachers, 37 responses (22.1 per cent) from grade 1 teachers, 32 responses (20.6 per cent) from grade 2 teachers, and 39 responses (21.3 per cent) from grade 3 teachers. A sec-

Table 59. Perceptions of elementary classroom teachers regarding the most desirable interval of delivery; by teaching assignment

Teaching Assignment	Twice Daily		Morning		Afternoon		4 times per week		3 times per week		2 times per week		Once per week		Other		Totals	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Kindergarten	2	1.9	20	18.7	9	8.4	4	3.7	10	9.3	38	35.5	23	21.5	1	1.0	107	100.0
Grade 1	4	2.4	33	19.8	7	4.2	4	2.4	23	13.8	53	31.7	37	22.1	6	3.6	167	100.0
Grade 2	5	3.2	28	18.0	6	3.9	6	3.9	17	11.0	57	36.8	32	20.6	4	2.6	155	100.0
Grade 3	7	3.8	30	16.4	6	3.3	8	4.4	26	14.2	62	33.9	39	21.3	5	2.7	183	100.0
Grade 4	4	2.4	30	18.8	8	4.8	3	1.8	22	13.3	61	36.7	28	16.9	10	6.0	166	100.0
Grade 5	8	5.7	27	19.1	6	4.3	3	2.1	12	8.5	54	38.3	26	18.4	5	3.6	141	100.0
Grade 6	4	3.1	27	21.1	10	7.8	3	2.3	12	9.4	51	39.8	19	14.9	2	1.6	128	100.0
Totals	34	3.2	195	18.6	52	5.0	31	3.0	122	11.7	376	35.9	204	19.5	33	3.1	1047	100.0

ond choice of daily (morning) delivery was indicated by 30 responses (18.8 per cent) from grade 4 teachers, 27 responses (19.1 per cent) from grade 5 teachers, and 27 responses (21.1 per cent) from grade 6 teachers.

Table 60 indicates the perceptions of elementary classroom teachers concerning the most desirable system of media delivery with respect to teaching assignment. Teachers at all grade levels most frequently indicated that a delivery van from the regional educational media center would be the most desirable system of delivery. This was evidenced by 71 responses (66.4 per cent) from kindergarten teachers, 124 responses (74.7 per cent) from grade 1 teachers, 114 responses (74.0 per cent) from grade 2 teachers, 132 responses (72.1 per cent) from grade 3 teachers, 126 responses (75.9 per cent) from grade 4 teachers, 111 responses (78.7 per cent) from grade 5 teachers, and 98 responses (76.6 per cent) from grade 6 teachers. In all grade levels there was no indication of the desirability of an alternative means of delivery.

Table 60. Perceptions of elementary classroom teachers regarding the most desirable system of media delivery; by teaching assignment

Teaching Assignment	U. S. Mail		Delivery Van		Other		Totals	
	N	%	N	%	N	%	N	%
Kindergarten	26	24.3	71	66.4	10	9.3	107	100.0
Grade 1	34	20.5	124	74.7	9	4.8	167	100.0
Grade 2	34	22.1	114	74.0	7	3.9	155	100.0
Grade 3	46	25.1	132	72.1	5	2.8	183	100.0
Grade 4	35	21.1	126	75.9	5	3.0	166	100.0

Table 60. (continued)

Teaching Assignment	U. S. Mail N	%	Delivery Van N	%	Other N	%	Totals N	%
Grade 5	24	17.0	111	78.7	6	4.3	141	100.0
Grade 6	24	18.8	98	76.6	6	4.6	128	100.0
Totals	223	21.3	776	74.1	48	4.6	1047	100.0

In-service Media Needs

This portion of the findings will compare perceived needs and methods for providing elementary classroom teachers with in-service media programs. The data to be found in this section are the synthesis of the responses to questions 13 and 14 of the questionnaire (Appendix A). Both questions 13 and 14 have been stratified by teaching assignment. Question 13 inquired into the perceived in-service needs of the elementary classroom teachers. The in-service programs which were suggested included those of Equipment Operation, Equipment Maintenance, Material Selection, Preparation of Material, Utilization of Media, New and Innovative Media, Administration of Local Media Programs, Operational Procedures, Cataloging Procedures, Photographic Procedures, and Other. Question 14 inquired into the most effective means of providing elementary classroom teachers with in-service information. The in-service options which were suggested included Extension Classes (with graduate college credit), Extension Classes (without graduate college credit), Short Courses, Teachers' Meetings, Workshops (with

graduate college credit), Workshops (without graduate college credit), and Other. Data relating to the "Other" categories for both of these questions are to be found in Appendix B.

In reporting the perceived in-service needs of the elementary classroom teachers, it was determined that those programs which were indicated with greatest frequency as "no need" by teachers at all grade levels would be mentioned but not presented in these findings. A response of "no need" was indicated with greatest frequency by teachers at all grade levels for in-service programs concerned with the preparation of materials, utilization of media, new and innovative media, cataloging procedures, and photographic techniques. In-service media programs perceived to be of some need at one or more teaching levels will be presented in the following paragraphs.

Table 61 presents the perceptions of elementary classroom teachers concerning the needs for in-service media programs on equipment operation with respect to teaching assignment. The teachers indicated with greatest frequency that they had no need for in-service media programs on equipment operations. This is represented by 35 responses (32.7 per cent) from kindergarten teachers, 71 responses (42.5 per cent) from grade 1 teachers, 57 responses (36.8 per cent) from grade 2 teachers, 55 responses (33.1 per cent) from grade 4 teachers, and 55 responses (39.0 per cent) from grade 5 teachers. A moderate need for in-service media programs on equipment operation was indicated by 56 responses (30.6 per cent) from grade 3 teachers. Grade 6 teachers with identical responses of 36 (28.1 per cent) indicated that they had no need and a moderate need for in-service media programs on

equipment operation.

Table 61. Perceptions of elementary classroom teachers regarding the need for in-service media programs on equipment operation; by teaching assignment

Teaching Assignment	No Need		Some Need		Moderate Need		Much Need		Great Need		Totals	
	N	%	N	%	N	%	N	%	N	%	N	%
Kinder-garten	35	32.7	22	20.6	29	27.1	15	14.0	6	5.6	107	100.0
Grade 1	71	42.5	33	19.8	38	22.8	15	9.0	10	5.9	167	100.0
Grade 2	57	36.8	39	25.2	36	23.2	19	12.3	4	2.5	155	100.0
Grade 3	55	30.1	40	21.9	56	30.6	22	12.0	10	5.4	183	100.0
Grade 4	55	33.1	29	17.5	47	28.3	28	16.9	7	4.2	166	100.0
Grade 5	55	39.0	33	23.4	31	22.0	9	6.4	13	9.2	141	100.0
Grade 6	36	28.1	25	19.6	36	28.1	21	16.4	10	7.8	128	100.0
Totals	364	34.8	221	21.1	273	26.1	129	12.3	60	5.7	1047	100.0

Table 62 presents the perceptions of elementary classroom teachers concerning the needs of in-service media programs on equipment maintenance with respect to teaching assignment. A moderate need was indicated with greatest frequency by 56 responses (33.5 per cent) from grade 1 teachers, 43 responses (27.8 per cent) from grade 2 teachers, 61 responses (33.3 per cent) from grade 3 teachers, 51 responses (30.7 per cent) from grade 4 teachers, 38 responses (27.0 per cent) from grade 5 teachers, and 60 responses (46.9 per cent) from grade 6 teachers. Kindergarten teachers in-

dicated with 31 responses (29.0 per cent) that they had much need for in-service media programs on equipment maintenance.

Table 62. Perceptions of elementary classroom teachers regarding the need for in-service media programs on equipment maintenance; by teaching assignment

Teaching Assignment	No Need		Some Need		Moderate Need		Much Need		Great Need		Totals	
	N	%	N	%	N	%	N	%	N	%	N	%
Kindergarten	22	20.5	16	15.0	27	25.2	31	29.0	11	10.3	107	100.0
Grade 1	39	23.3	23	13.8	56	33.5	32	19.2	17	10.2	167	100.0
Grade 2	36	23.2	33	21.3	43	27.8	34	21.9	9	5.8	155	100.0
Grade 3	34	18.6	33	18.0	61	33.3	47	25.7	8	4.4	183	100.0
Grade 4	34	20.5	24	14.5	51	30.7	43	25.9	14	8.4	166	100.0
Grade 5	29	20.6	19	13.5	38	27.0	34	24.0	21	14.9	141	100.0
Grade 6	16	12.5	19	14.8	60	46.9	24	18.8	9	7.0	128	100.0
Totals	210	20.1	167	16.0	336	32.1	245	23.4	89	8.5	1047	100.0

Table 63 presents the perceptions of elementary classroom teachers concerning the needs for in-service media programs for material selection with respect to teaching assignment. A moderate need was indicated with greatest frequency by 32 responses (29.9 per cent) from kindergarten teachers, 50 responses (29.9 per cent) from grade 1 teachers, 49 responses (31.6 per cent) from grade 2 teachers, 65 responses (35.5 per cent) from grade 3 teachers, 57 responses (34.3 per cent) from grade 4 teachers, 43

responses (30.5 per cent) from grade 5 teachers, and 55 responses (43.0 per cent) from grade 6 teachers.

Table 63. Perceptions of elementary classroom teachers regarding the need for in-service media programs on material selection; by teaching assignment

Teaching Assignment	No Need		Some Need		Moderate Need		Much Need		Great Need		Totals	
	N	%	N	%	N	%	N	%	N	%	N	%
Kinder-garten	17	15.9	14	13.1	32	29.9	30	28.0	14	13.1	107	100.0
Grade 1	31	18.5	24	14.4	50	29.9	38	22.8	24	14.4	167	100.0
Grade 2	28	18.1	27	17.4	49	31.6	37	23.9	14	9.0	155	100.0
Grade 3	26	14.2	21	11.5	65	35.5	52	28.4	19	10.4	183	100.0
Grade 4	25	15.1	21	12.7	57	34.3	46	27.7	17	10.2	166	100.0
Grade 5	22	15.6	19	13.5	43	30.5	32	22.7	25	17.7	141	100.0
Grade 6	12	9.4	16	12.5	55	43.0	33	25.8	12	9.3	128	100.0
Totals	161	15.4	142	13.6	351	23.5	268	25.6	125	11.9	1047	100.0

Table 64 indicates the perceptions of elementary classroom teachers concerning the needs for in-service media programs on the administration of a local media program with respect to teaching assignment. The teachers indicated with greatest frequency that they had a moderate need for in-service media programs on the administration of a local media program. This is represented by 31 responses (29.0 per cent) from kindergarten teachers, 57 responses (34.1 per cent) from grade 1 teachers, 51 responses

(32.9 per cent) from grade 2 teachers, 61 responses (33.3 per cent) from grade 3 teachers, 59 responses (35.5 per cent) from grade 4 teachers, 46 responses (32.6 per cent) from grade 5 teachers, and 48 responses (37.5 per cent) from grade 6 teachers in the study.

Table 64. Perceptions of elementary classroom teachers regarding the need for in-service media programs on administration of a local media program; by teaching assignment

Teaching Assignment	No Need		Some Need		Moderate Need		Much Need		Great Need		Totals	
	N	%	N	%	N	%	N	%	N	%	N	%
Kinder-garten	22	20.6	19	17.7	31	29.0	23	21.5	12	11.2	107	100.0
Grade 1	46	27.5	24	14.4	57	34.1	27	16.2	13	7.8	167	100.0
Grade 2	28	18.1	34	21.9	51	32.9	33	21.3	9	5.8	155	100.0
Grade 3	32	17.5	30	16.4	61	33.3	47	25.7	13	7.1	183	100.0
Grade 4	34	20.5	23	13.9	59	35.5	40	24.1	10	6.0	166	100.0
Grade 5	28	19.8	18	12.8	46	32.6	30	21.3	19	13.5	141	100.0
Grade 6	19	14.8	17	13.3	48	37.5	34	26.6	10	7.8	128	100.0
Totals	209	20.0	165	15.8	353	33.7	234	22.3	86	8.2	1047	100.0

Table 65 indicates the perceptions of elementary classroom teachers concerning the needs for in-service media programs on operational procedures with respect to teaching assignment. The teachers indicated with greatest frequency a moderate need for in-service media programs on operational procedures. This is represented by 32 responses (29.9 per cent)

from kindergarten teachers, 47 responses (28.1 per cent) from grade 1 teachers, 59 responses (38.1 per cent) from grade 2 teachers, 65 responses (35.5 per cent) from grade 3 teachers, 53 responses (31.9 per cent) from grade 4 teachers, 39 responses (27.7 per cent) from grade 5 teachers, and 43 responses (33.6 per cent) from grade 6 teachers in the study.

Table 65. Perceptions of elementary classroom teachers regarding the need for in-service media programs on operational procedures; by teaching assignment

Teaching Assignment	No Need		Some Need		Moderate Need		Much Need		Great Need		Totals	
	N	%	N	%	N	%	N	%	N	%	N	%
Kinder-garten	12	11.2	13	12.2	32	29.9	26	24.3	24	22.4	107	100.0
Grade 1	22	13.2	25	15.0	47	28.1	43	25.7	30	18.0	167	100.0
Grade 2	17	11.0	21	13.5	59	38.1	35	22.6	23	14.8	155	100.0
Grade 3	21	11.5	19	10.4	65	35.5	52	38.4	26	14.2	183	100.0
Grade 4	18	10.8	21	12.7	53	31.9	51	30.7	23	13.9	166	100.0
Grade 5	15	10.6	16	11.4	39	27.7	36	25.5	35	24.8	141	100.0
Grade 6	9	7.0	11	8.6	43	33.6	37	28.9	28	21.9	128	100.0
Totals	114	10.9	126	12.0	338	32.2	280	26.7	189	18.1	1047	100.0

Table 66 presents the perceptions of elementary classroom teachers regarding the most effective means of providing in-service instruction with respect to the teaching assignment of the teachers sampled. Teachers at all grade levels indicated most frequently that workshops (with grad-

Table 66. Perceptions of elementary classroom teachers regarding the most effective means of providing in-service training information; by teaching assignment

Teaching Assignment	Extension Classes With Credit		Extension Classes Without Credit		Short Courses		Teachers' Meetings		Workshops With Credit		Workshops Without Credit		Other		Totals	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Kindergarten	23	21.5	0	0.0	6	5.6	9	8.4	47	43.9	15	14.0	7	6.6	107	100.0
Grade 1	30	18.0	5	3.0	10	6.0	35	21.0	55	32.9	15	9.0	17	10.1	167	100.0
Grade 2	28	18.1	2	1.3	12	7.7	33	21.3	52	33.5	17	11.0	11	7.1	155	100.0
Grade 3	28	15.3	1	0.5	15	8.2	30	16.4	62	33.9	34	18.6	13	7.1	183	100.0
Grade 4	32	19.3	7	4.2	13	7.8	32	19.3	48	28.9	20	12.1	14	8.4	166	100.0
Grade 5	35	24.8	3	2.1	12	8.5	27	19.2	33	23.4	22	15.6	9	6.4	141	100.0
Grade 6	33	25.8	2	1.6	6	4.7	24	18.8	41	32.0	12	9.4	10	7.8	128	100.0
Totals	209	20.0	20	1.9	74	7.1	190	18.2	338	32.3	135	12.9	81	7.6	1047	100.0

uate college credit) would provide the most desirable means of in-service programs. This is represented by 47 responses (43.9 per cent) from kindergarten teachers, 55 responses (32.9 per cent) from grade 1 teachers, 52 responses (33.5 per cent) from grade 2 teachers, 62 responses (33.9 per cent) from grade 3 teachers, 48 responses (28.9 per cent) from grade 4 teachers, 33 responses (23.4 per cent) from grade 5 teachers, and 41 responses (32.0 per cent) from grade 6 teachers.

Two additional factors are evidenced in this Table. First, extension classes (with graduate college credit) and teachers' meetings were equally represented as a second choice by the teachers sampled. This may be indicative of the importance placed upon graduate college credit by these elementary classroom teachers. Secondly, 81 responses to this question were received in the category of "Other". Numerous written suggestions were returned by the elementary classroom teachers sampled. Please consult Appendix B for specific responses to the category of "Other".

DISCUSSION

When the highest educational degree attained was examined in relation to the educational media training of the elementary classroom teachers, it was disclosed that a larger percentage of teachers with the Master's degree have no media training. Further investigation of those teachers holding the Master's degree evidences that only .2 per cent have 1-3 years educational experience and 53.0 per cent of the category have 10 years or longer educational experience. This observation indicates that most elementary classroom teachers obtain their Master's degree after having some educational experience. Media preparation or additional media preparation does not appear to be part of the Master's program. It is not known whether candidates for Master's degrees have no opportunity to take a media course, or, given the option, they do not elect to take media courses. The investigator believes that the intent for obtaining a Master's degree by elementary classroom teachers may be to seek employment in the area of elementary administration, to specialize in a teaching area (such as reading), or to make a change in their position on the school's salary scale.

Examination of the educational media training as indicated by the elementary classroom teachers sampled indicated that 36.3 per cent have media training and 63.7 per cent have no media training. The greater emphasis on media training is noticeable when comparing the educational experience of the elementary teachers with their educational media training. With 1-3 years experience, the sample indicated twice as many elementary classroom teachers having educational media training as elementary classroom teachers having no educational media training. All other categories of educational

experience examined revealed that a greater number of teachers had no media training.

A similar phenomenon of this recent curriculum trend was evidenced when educational media training was compared with the grade assignment of the elementary classroom teachers. The largest percentages of elementary teachers having media training appeared as grade 1 (39.5 per cent) and grade 2 (41.3 per cent) teachers. When the number of years educational experience was compared with the teaching assignment, there was an increase in the experience category of 1-3 years for grade 1 and grade 2 teachers.

Examination of the data concerning the sex difference of the elementary classroom teachers sampled evidenced that 94.6 per cent were female and 5.4 per cent were male. A greater proportion of female to male elementary classroom teachers was anticipated, although this great of a proportion of female teachers was not expected by the investigator. When the educational media training was compared with sex difference of the elementary classroom teachers sampled, it was noted that 361 of the 990 female teachers (36.5 per cent) had media training, while 19 of the 57 male teachers (33.3 per cent) had media training. This would indicate 3.2 per cent more female teachers had media training. The investigator anticipated a greater percentage of males having media training. Factors influencing this finding might include (1) the recency of male teachers in obtaining their Master's degree, or (2) the number of male to female teachers compared in the sample.

The sample of elementary classroom teachers in the study consisted of

2 pre-kindergarten teachers, 105 kindergarten teachers, 167 grade 1 teachers, 155 grade 2 teachers, 183 grade 3 teachers, 166 grade 4 teachers, 141 grade 5 teachers, and 128 grade 6 teachers. The investigator has verified (18) that these numbers are proportional to the quantity of elementary classroom teachers at each grade level in Iowa.

When examined on the basis of having a full-time media director (library, audiovisual, or media) available within their school district, the elementary classroom teachers indicated that 53.8 per cent had a full-time media director available. The investigator's intent for this question was to determine those teachers who had an individual they could consult as a resource person when the instructional need would arise. From the responses returned, it was evidenced that a number of those indicating the availability of such a person in their school district would be unable to answer "yes" if the question had requested the availability of a full-time media director for each attendance center.

The investigator observed that there may be a relationship between the request for production services from the regional educational media centers and the availability of a full-time media director. The investigator believes that this resource person may be better able to inform teachers of materials which could be produced for instruction and to make such requests to the regional educational media center. A more complete investigation of lines of communication between elementary classroom teachers and local media coordinators might provide further evidence of this type.

When the elementary classroom teachers were asked if they had access to catalogs or printed lists of materials made available from the regional

educational media center, 98.8 per cent replied with an affirmative response. This finding was gratifying to the investigator. The elementary classroom teachers sampled were required to have utilized educational media and/or services of the regional educational media centers; therefore, this finding should be indicative of how well informed those elementary classroom teachers are. This finding may not represent the availability of catalogs or printed lists of all elementary classroom teachers. The investigator believes that the elementary classroom teachers sampled perceive the quantity of catalogs or printed lists to be satisfactory. Further evidence would be needed before additional statements could be made concerning the quality of catalogs or printed lists.

When the perception of educational media utilized from the regional educational media centers was considered, the analysis of variance technique was utilized to test the significance of eleven specific hypotheses. The Newman-Keuls analysis for the difference between all pairs of ordered means was used to determine those elementary classroom teachers who perceive materials characteristics differently. Those teachers who indicated a difference in perceptions will be discussed in the paragraphs which follow.

Elementary classroom teachers, with the exceptions of kindergarten, grade 1, and grade 4, perceive the physical condition of science books in a similar manner. Kindergarten and grade 1 teachers perceive science books circulated by the regional educational media center to be in poorer physical condition, while grade 4 teachers perceive science books to be in better physical condition than do other teachers.

When teacher perception of language arts periodicals was examined on the basis of physical condition, it was observed that kindergarten and grade 6 teachers perceive the physical condition of language arts periodicals to be in poorer physical condition than do teachers at the other grade levels.

Examination of the data regarding the perception of elementary classroom teachers of the relevance of science films indicated that grade 2, grade 4, and grade 5 teachers differ in their perceptions. The responses would indicate that grade 2 teachers perceive science films to have less relevance to curriculum and/or courses of study being taught, while grade 4 and grade 5 teachers perceive science films to be more relevant.

When examined on the basis of variety of science films, it was shown that grade 2, grade 4, and grade 5 teachers perceive the variety of science films differently than do teachers of other grades. Grade 2 teachers perceive the variety of science films to be less, while teachers of grade 4 and grade 5 perceive the variety of science films to be greater.

Elementary classroom teachers perceive the content quality of science films in a similar manner with the exceptions of kindergarten, grade 4, and grade 5 teachers. Kindergarten teachers perceive science films to be of poorer quality, while grade 4 and grade 5 teachers perceive science films to be of better quality.

Elementary classroom teachers perceive the timeliness (pertinence) of science films in a similar manner with the exceptions of grade 1, grade 2, grade 4, and grade 5 teachers. Grade 1 and grade 2 teachers perceive science films to be less timely, while grade 4 and grade 5 teachers perceive

science films to be more timely.

Kindergarten, grade 4, and grade 5 teachers perceive the physical condition of science films differently than elementary classroom teachers at other grade levels. Kindergarten teachers perceive science films to be in poorer physical condition, while teachers of grade 4 and grade 5 perceive science films to be in better physical condition than do other elementary classroom teachers.

Only fourth grade teachers perceive the relevance of social sciences films in a similar manner. Kindergarten, grade 1, grade 2, and grade 3 teachers perceive social sciences films to be less relevant to their curriculum and/or courses of study, while grade 5 and grade 6 teachers perceive social sciences films to be more relevant to their curriculum and/or courses of study being taught.

Examination of the data on the sufficiency of social sciences films showed that elementary classroom teachers perceive in a similar manner with the exceptions of grade 1 and grade 6 teachers. Grade 1 teachers perceive social sciences films to be less sufficient in quantity, while grade 6 teachers perceive the quantity of this material to be more sufficient than other elementary classroom teachers.

The investigator notes that only grade 4 teachers perceive the content quality of social sciences films in a similar manner. Kindergarten, grade 1, grade 2, and grade 3 teachers perceive the content quality of social sciences films to be poorer, while grade 5 and grade 6 teachers perceive social sciences films to be of better quality.

Elementary classroom teachers perceive the timeliness of social sci-

ences films in a similar manner with the exceptions of kindergarten, grade 1, grade 2, and grade 6 teachers. Kindergarten, grade 1, and grade 2 teachers perceive social sciences films to be less timely, while grade 6 teachers perceive social sciences films to be more timely.

Elementary classroom teachers perceive the physical condition of social sciences films in a similar manner with the exceptions of kindergarten, grade 4, and grade 6 teachers. Kindergarten teachers perceive the physical condition of social sciences films to be poorer, while grade 4 and grade 6 teachers perceive the physical condition of social sciences films to be better than other elementary classroom teachers.

When considering the previous observations, the investigator believes that there are three significant reasons for elementary classroom teachers to perceive media in the manner described. These reasons include (a) the curriculum followed, (b) the quantity and quality of media, and (c) the nature of the media provided. These reasons will be given consideration in the paragraphs which follow.

The individual elementary attendance center curriculum may have a profound influence upon the teacher's perceptions of educational media. An elementary school curriculum centered around the educational objectives of a school may or may not encourage the utilization of educational media. The type of curriculum followed and the individual teacher's interpretation of the student objectives to be accomplished will be factors which influence the teacher usage of media. There may be a tendency among teachers at all grade levels to label materials as untimely or irrelevant because they find it difficult to depart from their traditional methods of presen-

tation and to incorporate the usage of different types of media in their daily lessons. In-service media programs for elementary classroom teachers could have a positive influence upon teacher perceptions of media with respect to student objectives and curriculum of their school.

Elementary classroom teacher perceptions of the quantity of media delivered from the regional educational media center may reflect the actual availability. Utilization of certain types of media may be influenced by the season of the year and by the popularity of the titles being produced. The instructional resources center's best indication of a need for a greater quantity of media may be from those requests which it is unable to fulfill. Duplicate copies of these materials is one solution to this problem. The direct notification by elementary classroom teachers of subject matter needs might be another solution. A most desirable source of information for the personnel of the regional educational media centers would be a system of notification of needs from the individual elementary classroom teachers. This system might utilize the existing system of media delivery at each regional media center.

The quality of educational media provided by the educational media centers in the state of Iowa has a definite influence upon teacher perceptions of instructional media. Materials found by the teachers to be in a poorer physical condition may be due to the usage of a smaller quantity of this media than might be desirable. Educational media which has frequently been requested may evidence greater wear than media having infrequent usage. Media having student usage (books, periodicals) may evidence a poorer physical condition by the misuse of coloring crayons, scissors, and writing

instruments of various types.

The investigator believes that commercial producers of media have a profound influence upon the variety of materials which are purchased by the regional educational media centers. Commercial enterprises produce media to sell to as many potential users as possible. This production does not always lend itself to the specific use desired in each geographic location. In the investigation, a lower perceived rating of many materials characteristics was evidenced by kindergarten, grade 1, grade 2, and grade 3 teachers, while a greater perceived rating of materials characteristics was evidenced by grade 4, grade 5, and grade 6 teachers. The investigator believes these perceptions to be indicative of the greater number of materials presently being produced by commercial enterprises for the grade 4, grade 5, and grade 6 students.

The investigator anticipated significant differences to be found in the perceptions of elementary classroom teachers concerning science, social sciences, and language arts books, language arts periodicals, science and social sciences films, science and social sciences filmstrips, science and mathematics transparencies, and social sciences multi-media kits. It was anticipated that the materials characteristics which would be found significant in the investigation would be in the areas of sufficiency, variety, and quality. It was also anticipated that kindergarten, grade 1, and grade 2 teachers would have a lower perceived rating of instructional media.

It was disclosed by the investigation that science books, language arts periodicals, science films, and social sciences films have significant

perceived ratings. The greatest incidence of significance for a materials characteristic occurred as the physical condition of media. Significant findings indicated that kindergarten, grade 1, grade 2, and grade 3 teachers generally have a lower perceived rating of instructional media, while grade 4, grade 5, and grade 6 teachers generally have a higher perceived rating of instructional media.

Other categories of instructional media which approached significance in the investigation included:

a) Quality of science books

b) Relevance and sufficiency of social sciences books

c) Physical condition of mathematics periodicals

d) Sufficiency of science films

e) Variety of social sciences films

f) Quality, timeliness, and physical condition of mathematics films

g) Relevance of science filmstrips

h) Quality of social sciences filmstrips

i) Physical condition of mathematics filmstrips

j) Variety of mathematics slide sets

The above listing includes all instructional media which exceeded the .05 level of significance but failed to exceed the pre-determined .01 level of significance when their corresponding hypothesis were tested with the analysis of variance technique.

Examination of the perceptions of elementary classroom teachers concerning materials which had been produced for them by the regional educational media centers indicated that those teachers utilizing the services

most frequently gave those materials an "excellent" rating. It would be the investigator's observation that those production services at the regional educational media centers are not utilized as frequently and as thoroughly as they might be. The infrequent usage of these services from the regional educational media centers may be the result of a number of factors. Two factors relevant to this topic appear to warrant discussion here.

First, to perceive the quality of materials which are produced it is desirable to understand the basic production procedures and have some idea of the possible end products. In this investigation, it was disclosed that 63.7 per cent of the teachers sampled had no media training. It may be assumed that through teaching experiences some techniques and proficiencies of material production have been acquired by elementary classroom teachers. With this limited exposure to the production of materials and the lack of any formal training, it is not surprising to the investigator that no more than 8.8 per cent of the elementary classroom teachers sampled had utilized the production services provided by the regional educational media centers. To remedy this lack of knowledge, teachers could learn techniques and production of materials through workshops, extension classes, short courses, or other in-service programs.

Secondly, it may be that the regional educational media centers are not adequately financed or staffed to produce materials to fulfill the demand which could be created by better informed elementary classroom teachers. The production of materials for effective classroom usage takes time, production space, numerous machines, an adequate supply of raw materials,

teachers who will use these materials, and personnel who are capable of producing the materials. At the present time, financial resources do not exist for any quantity of these materials, machines, or personnel. It would be hoped that the elementary classroom teachers might become better informed as to the materials which may be produced by the regional educational media centers for use within their classrooms. Additional local, state, and federal funds may be justifiable by teacher requests for materials production.

When the data were examined concerning the perception of elementary classroom teachers with regard to the most desirable system and interval of delivery, the categories "2 times per week" by "delivery van" were evidenced with the greatest frequency. A second delivery interval choice of "once per week" was noted by teachers in kindergarten through grade 3, and "a daily (morning) delivery" was noted by teachers in grade 4 through grade 6. This observation could be interpreted to mean that lower elementary grade teachers perceive the frequency of delivery needed to be somewhat less than their fellow teachers in the upper elementary grades.

When investigating the elementary classroom teacher's perceptions of needs of in-service media programs, a five-point scale indicating degree of need was utilized. The elementary teacher was asked to circle number 1 for "no need", number 2 for "some need", number 3 for a "moderate need", number 4 for "much need", and number 5 for "great need". In the analysis of this question it was the decision of the investigator to interpret any part of the question left unanswered as the answer "no need". It was felt that other interpretations of the unanswered questions would be less meaningful.

It was anticipated that the elementary classroom teachers would express some degree of need for the suggested in-service programs. The "no need" responses do not reflect those individuals who failed to perceive those concepts relative to in-service media training. It is the belief of the investigator that the types of in-service programs proposed in the study should have had a more thorough explanation for those teachers less familiar with the terminology. This might have resulted in a more realistic evaluation of the perceptions of in-service media training.

It was disclosed that the most frequent indication was for "no need" by teachers at all grade levels for in-service programs concerned with the preparation of materials, utilization of media, new and innovative media, cataloging procedures, and photographic techniques.

Examination of the data concerning the elementary classroom teachers' perceptions of need for equipment operation in-service media training indicated "no need" at all grade levels except those of grade 3 and grade 6. A "no need" response reflects the fact that proficiency in equipment operation is a requirement for teacher certification in the state of Iowa. Teachers of grade 3 and grade 6 in the study were evenly divided in their perceptions between a "moderate need" and "no need" for this type of in-service media training. The investigator was unable to discover any data which would provide an explanation for this phenomenon.

Of interest to the investigator was the response from the elementary classroom teachers of their need for in-service media training in equipment maintenance. The greater number of responses indicated a "moderate need" for this type of in-service media training. Kindergarten teachers

were noted to have perceived "much need" for information concerning equipment maintenance. The investigator believes that these responses indicate a concern of the elementary classroom teacher to know what is wrong with a machine when it is not functioning properly and the need to know when instructional devices are performing effectively. It would be hoped that this need would not be indicative of the fear of use of instructional devices which may be utilized in the classroom.

When the data were examined with respect to the need for in-service media education concerning material selection, it was disclosed that elementary classroom teachers perceive a "moderate need" at all grade levels. This response is indicative of a desire to be better informed as to those many aspects of materials selection. The investigator is unable to evidence in the sampling the desire of the elementary classroom teachers to be informed as to sources of materials, techniques of selection or systematic approaches to ordering and purchasing, or a desire to become aware of those possibilities of application to the classroom. Only further investigation of this type of in-service need would evidence the individual elementary classroom teacher's needs.

Examination of the perceptions of elementary classroom teachers concerning the perception of need for in-service media instruction regarding the administration of a local media program evidenced that there is a "moderate need" from all teaching assignment categories. It could be argued that this need might be indicative of the lack of an organizational system which is beneficial to the elementary classroom teacher. Earlier findings indicating that 46.3 per cent of the elementary classroom teachers

have no media director in their school district might serve as some justification. Not knowing the number of elementary school attendance centers which have no media personnel, it would be difficult to determine this type of perception without further investigation.

When examined on the basis of the need for in-service media instruction concerning operational procedures, it was disclosed that elementary classroom teachers perceive a "moderate need" for all teaching assignment categories. This finding would support previous observations that elementary classroom teachers are concerned with being informed as to the procedures which can best be utilized in the local attendance center.

In-service programs concerning operational programs might be one method of promotion for a greater teacher-utilization of educational media and services of the regional educational media centers. Some individuals may contend that this type of in-service education might be damaging to those concepts of the regional educational media center. The investigator believes that a proper in-service orientation concerning operational procedures should enhance the educational media and services of the specific regional areas. The more informed elementary classroom teachers should increase the utilization of media and services at all grade levels.

When the data were examined regarding the perceptions of elementary classroom teachers concerning the most effective means of providing in-service instruction, it was disclosed that teachers at all grade levels indicated most frequently the desire to have workshops (with graduate college credit). The investigator believes that this indication may have occurred most frequently because of the financial reimbursement or compensa-

tory time which sometimes is associated with the term "workshop". It is believed that the deciding factor between the two workshop categories was the granting of graduate college credit.

It was disclosed by those elementary classroom teachers indicating the alternative "other", that a category of "workshop (with undergraduate college credit)" would have been an option which a number of elementary classroom teachers would have utilized. In light of the sample containing 26.4 per cent elementary classroom teachers with no degree, this might have been a possible alternative. Over twenty different types of suggestions were written-in by the teachers sampled. Some of these suggestions for providing in-service media information included: room visitation in other schools, workshops with undergraduate college credit, and a tour of the regional media center to acquaint teachers with the materials available.

Recommendations For Further Study

The purpose of this study was to investigate the perceptions of elementary classroom teachers concerning instructional media and services provided by the regional educational media centers in the state of Iowa. Only public elementary schools were considered in this study. No attempt was made to investigate other aspects of the operations of these media centers, such as administrative structure, organizational function, and financing. Correspondingly, other aspects of teacher perceptions and influence were not considered.

A common difficulty encountered in a study of this scope is that of isolating those aspects which can be studied within the financial limitation of one's budget. The study contemplated by the Iowa Department of

Public Instruction (15, p. 3) indicated that they had to resort to a random sample from four of the sixteen educational regions because of the expense involved. Difficulties in the collection of data are multiplied as one enlarges the geographic areas of the sample, as was done in this study.

The present study only considered the perceptions of elementary classroom teachers within the public school systems of the state. Other studies designed to evidence teacher perceptions might be to investigate those perceptions of secondary classroom teachers, curriculum coordinators, local media or library coordinators, teachers of the disadvantaged or exceptional child (the special education teachers), or elementary and secondary principals. Investigations regarding student perceptions of educational media and services of the regional educational media centers might prove to be beneficial. Investigations regarding middle school or junior high school student perceptions of media utilized in such subjects as biology, social sciences, or language arts might prove to be of interest to numerous educators.

The vast area of the private and parochial schools which is constantly making use of materials and services of the regional educational media centers was not considered in the study. Staff members of the regional media centers and elementary administrators indicated that these schools utilize the regional educational media centers to a great extent.

An enlargement of sample size would allow the investigator to make valuable inferences back to the individual regional educational media center. Such an intensive study of one of the regional media centers might give the investigator sufficient numbers to provide a solution to problems

which that center might have. However, an increase in sample size would be financially prohibitive for an individual to undertake without some support from a sponsoring agency.

Other studies of this type might be encouraged in states which have a regional educational media system in operation or are thinking in terms of the feasibility of such a system. All literature located by the investigator and relating to regional media centers was in the form of short periodical writings. Intensive studies of the regional educational media concept have not yet been undertaken.

SUMMARY

Purpose of the Study

The purpose of this investigation was to study the perceptions of elementary classroom teachers toward the educational media and services which are provided for them by the regional educational media centers in Iowa. A two-part questionnaire was constructed to collect the data. Part A was designed to gather elementary classroom teacher characteristics. Part B was designed to determine those perceptions of elementary classroom teachers concerning media needs, characteristics of media utilized, characteristics of materials produced, the most desirable system of media delivery, and in-service media needs.

The Sample

The sample for this investigation consisted of 1,252 public elementary classroom teachers who had been systematically selected from sixteen regional educational areas, each containing a regional educational media center, in the state of Iowa. The elementary classroom teachers included in the investigation (1) have used materials and/or services from a regional educational media center, (2) teach a single grade level in a self-contained elementary classroom and (3) teach the subjects of science, social sciences, mathematics, and language arts.

The educational degree attainment of the sample indicated that 276 teachers (26.4 per cent) had no degree, 720 teachers (68.8 per cent) had a Bachelor's degree, and 51 teachers (4.9 per cent) had a Master's degree. The educational media training of the elementary classroom teachers in the

sample was indicated by 380 teachers (36.3 per cent) having media training and 667 teachers (63.7 per cent) having no media training. The sample indicated 990 female teachers (94.6 per cent) and 57 male teachers (5.4 per cent). The educational experience of the elementary classroom teachers in the sample was represented by 148 teachers (14.1 per cent) with 1-3 years experience, 117 teachers (11.2 per cent) with 4-6 years experience, 168 teachers (16.1 per cent) with 7-9 years experience, and 614 teachers (58.6 per cent) with 10 years or longer experience. Those elementary classroom teachers indicating a full-time media director within their school district consisted of 563 teachers (53.8 per cent) and those indicating no full-time media director within their school district consisted of 484 teachers (46.2 per cent). With respect to the grade assignment of the elementary classroom teachers sampled, it was determined that 2 (.2 per cent) were pre-kindergarten teachers, 105 (10.0 per cent) were kindergarten teachers, 167 (16.0 per cent) were grade 1 teachers, 155 (14.7 per cent) were grade 2 teachers, 183 (17.5 per cent) were grade 3 teachers, 166 (15.9 per cent) were grade 4 teachers, 141 (13.5 per cent) were grade 5 teachers, and 128 (12.2 per cent) were grade 6 teachers. An analysis of the sample of elementary classroom teachers evidenced that 98.9 per cent of the teachers had catalogs or printed lists of materials available to them from their regional educational media center.

Methods of Procedure

Teachers were systematically selected from single elementary school attendance centers within school districts located within each of the sixteen educational regions throughout the state of Iowa. School districts

were first assigned to their respective educational regions and then ranked by student population from largest to smallest total enrollment. The number of attendance centers to be selected was based on the average number of elementary classroom teachers per district. This average approximated the regional percentage of all teachers in the population. Each of the individual elementary attendance centers, after being selected, was contacted through the building principal. A request to participate was sent asking for cooperation in the study by faculty members and principals. A reply card was inclosed in the mailing for the principal to return and indicate the number of teachers who would participate (Appendix A).

If the principal's response on the card was "no", or if a two-week period of time elapsed, the random selection process would start again for that region. If the principal and his faculty indicated "yes" they wished to participate in the study, a package of questionnaires was sent. The package included the specified number of questionnaires plus some extra examination copies, an instruction sheet, and a mailer for their return. Generally all elementary classroom teachers within an attendance center elected to cooperate in the study.

A first reminder letter was sent to an attendance center which had not returned its questionnaires after a two-week period. A second reminder letter was sent to the attendance center after four weeks had elapsed. If this did not result in the return of the questionnaires, a personal follow-up telephone call was made to the principal.

A questionnaire used for data collection was constructed for this study. The instrument was designed for the two stated objectives and con-

structed to test eleven hypotheses. Numerous additions and revisions were made through discussions with regional educational media personnel and the investigator's graduate committee. A preliminary revision of the instrument was made and preparation for a pre-test was arranged. A pre-test version of the questionnaire was submitted to elementary classroom teachers in one of the Iowa cities not sampled. The final form of the questionnaire with coordinating letters can be found in Appendix A.

The questionnaires and instruction sheets were sent to those principals who indicated that their elementary classroom teachers would participate in this study. The principals were given the alternative of administering the questionnaire in a group faculty meeting or of having the elementary classroom teachers complete the instrument individually at their own convenience. Regional media personnel and the principals were asked to cooperate in answering any of the questions which the teachers might have concerning the questionnaire.

At the end of the eight-week period, the data collection was terminated with 78.6 per cent rate of return. Of the 1,252 questionnaires returned, 1,047 (83.6 per cent) were found to be usable for the study.

Responses from the questionnaire were tabulated according to a predetermined schedule and the resulting data punched on standard 80-column data processing cards. Questions 1 through 7 were numerically analyzed. Question 8 was not included in this presentation, but will be presented at a later date to the regional educational media center directors in the state of Iowa. Question 9 was tested by eleven specific hypotheses which were treated with the analysis of variance technique which was used to de-

termine mean differences between grade levels. Questions 10 through 14 were numerically analyzed. These questions were concerned with the perceptions of elementary classroom teachers with regard to educational media and services provided by the regional educational media centers in Iowa.

Hypotheses Tested and Results

This study was designed to test eleven specific hypotheses which were examined by the analysis of variance technique. Specific mean differences were determined through the Newman-Keuls analysis. The rejection of any one hypothesis may be the result of any of its parts being rejected.

Hypothesis 1: There are no significant differences in group means of elementary classroom teachers classified by teaching assignment regarding their perceptions of the characteristics of books used in science, social sciences, mathematics, and language arts which have been obtained from the regional educational media centers in the state of Iowa.

This investigation has determined that Hypothesis 1 should be rejected. The alternative hypothesis would indicate that there are significant differences in group means of elementary classroom teachers classified by teaching assignment regarding their perceptions of the characteristics of books used in science, social sciences, mathematics, and language arts which have been obtained from the regional educational media centers in the state of Iowa.

Hypothesis 2: There are no significant differences in group means of elementary classroom teachers classified by teaching assign-

ment regarding their perceptions of the characteristics of periodicals used in science, social sciences, mathematics, and language arts which have been obtained from the regional educational media centers in the state of Iowa.

This investigation has determined that Hypothesis 2 should be rejected. The alternative hypothesis would indicate that there are significant differences in group means of elementary classroom teachers classified by teaching assignment regarding their perceptions of the characteristics of periodicals used in science, social sciences, mathematics, and language arts which have been obtained from the regional media centers in the state of Iowa.

Hypothesis 3: There are no significant differences in group means of elementary classroom teachers classified by teaching assignment regarding their perceptions of the characteristics of films used in science, social sciences, mathematics, and language arts which have been obtained from the regional educational media centers in the state of Iowa.

This investigation has determined that Hypothesis 3 should be rejected. The alternative hypothesis would indicate that there are significant differences in group means of elementary classroom teachers classified by teaching assignment regarding their perceptions of the characteristics of films used in science, social sciences, mathematics, and language arts which have been obtained from the regional media centers in the state of Iowa.

Hypothesis 4: There are no significant differences in group means of elementary classroom teachers classified by teaching assignment regarding their perceptions of the characteristics of filmstrips used in science, social sciences, mathematics, and language arts which have been obtained from the regional educational media centers in the state of Iowa.

For the hypothesis tested, none of the materials characteristics of filmstrips used in science, social sciences, mathematics, and language arts exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject Hypothesis 4.

Hypothesis 5: There are no significant differences in group means of elementary classroom teachers classified by teaching assignment regarding their perceptions of the characteristics of slide sets used in science, social sciences, mathematics, and language arts which have been obtained from the regional educational media centers in the state of Iowa.

For the hypothesis tested, none of the materials characteristics of slide sets used in science, social sciences, mathematics, and language arts exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject Hypothesis 5.

Hypothesis 6: There are no significant differences in group means of elementary classroom teachers classified by teaching assignment regarding their perceptions of the characteristics of disc recordings used in science, social sciences, mathema-

tics, and language arts which have been obtained from the regional educational media centers in the state of Iowa.

For the hypothesis tested, none of the materials characteristics of disc recordings used in science, social sciences, mathematics, and language arts exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject Hypothesis 6.

Hypothesis 7: There are no significant differences in group means of elementary classroom teachers classified by teaching assignment regarding their perceptions of the characteristics of tape recordings used in science, social sciences, mathematics, and language arts which have been obtained from the regional educational media centers in the state of Iowa.

For the hypothesis tested, none of the materials characteristics of tape recordings used in science, social sciences, mathematics, and language arts exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject Hypothesis 7.

Hypothesis 8: There are no significant differences in group means of elementary classroom teachers classified by teaching assignment regarding their perceptions of the characteristics of transparencies used in science, social sciences, mathematics, and language arts which have been obtained from the regional educational media centers in the state of Iowa.

For the hypothesis tested, none of the materials characteristics of transparencies used in science, social sciences, mathematics, and lan-

guage arts exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject Hypothesis 8.

Hypothesis 9: There are no significant differences in group means of elementary classroom teachers classified by teaching assignment regarding their perceptions of the characteristics of study prints used in science, social sciences, mathematics, and language arts which have been obtained from the regional educational media centers in the state of Iowa.

For the hypothesis tested, none of the materials characteristics of study prints used in science, social sciences, mathematics, and language arts exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject Hypothesis 9.

Hypothesis 10: There are no significant differences in group means of elementary classroom teachers classified by teaching assignment regarding their perceptions of the characteristics of multi-media kits used in science, social sciences, mathematics, and language arts which have been obtained from the regional educational media centers in the state of Iowa.

For the hypothesis tested, none of the materials characteristics of multi-media kits used in science, social sciences, mathematics, and language arts exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject Hypothesis 10.

Hypothesis 11: There are no significant differences in group means of elementary classroom teachers classified by teaching assign-

ment regarding their perceptions of the characteristics of realia used in science, social sciences, mathematics, and language arts which have been obtained from the regional educational media centers in the state of Iowa.

For the hypothesis tested, none of the materials characteristics of realia used in science, social sciences, mathematics, and language arts exceeded the tabled value of F at the .01 level of significance. Therefore, there was insufficient evidence to reject Hypothesis 11.

Elementary classroom teachers perceive the most desirable interval and system of delivery of media from the regional educational media centers to be "2 times per week" by "delivery van."

Elementary classroom teachers perceive the need for in-service media programs as "moderate" for those concerned with equipment maintenance, material selection, administration of a local media program, and media center operational procedures. The "workshop (with graduate college credit)" was perceived to be the most effective means of providing in-service media instruction.

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APPENDIX A

INSTRUCTIONS FOR COMPLETING THE ELEMENTARY CLASSROOM TEACHER QUESTIONNAIRE

(Please read this to all elementary teachers prior to having them complete this questionnaire-if possible.)

READ : This questionnaire is concerned with the regional (area) media center in your area.

1. This test appears, at first glance, to be long and somewhat complicated. The elementary classroom teachers who had pre-tested this questionnaire spent on the average of less than 15 minutes to complete all items. The test will be easier to complete if you will look at each individual page before starting.

   A. On Page 1 Questions 1 thru 7 — Note the criteria at the top of this page. All teachers should fill out Part A.

   B. On Page 2 Question 8 — Please indicate your present classroom needs for science, social sciences, mathematics, and language arts materials.

   C. On Pages 3,4,5,6 Questions 9, 9a, 9b, 9c — These pages will ask you to evaluate those media or materials you have used from the regional (area) media center. Question 9 asks questions about science materials; question 9a asks questions about social sciences materials; question 9b asks questions about mathematics materials; and question 9c asks questions about language arts materials you have used.

   D. On Page 7 Questions 10, 11, 12 — This page contains questions about materials you have had made by your regional media center and the most desirable delivery services to be provided to your school.

   E. On Page 8 Questions 13, 14 — This page deals with in-service media training that you might desire to have given from your regional (area) media center.

   F. Please start from Page 1 to fill out your individual questionnaire. Good Luck!

(Instructions for returning questionnaires--)

Please place the completed questionnaires in the self-addressed envelope that is included and mail.

ONCE AGAIN, A THANK YOU, TO YOU AND THE ELEMENTARY CLASSROOM TEACHERS WHO HAVE PARTICIPATED. IT IS HOPED THAT YOUR REWARD FOR THIS WILL BE A MORE EFFECTIVE REGIONAL (AREA) MEDIA CENTER.

Name of Principal
School Address

Mr. Rex C. Ingram
Director of Media Services
Winona State College
Winona, Minnesota 55987

☐ Our school would like to participate in this state wide media study.

Please indicate the total number of classroom elementary teachers under your supervision.

No.

(If you supervise more than one attendance center, please indicate only the number of teachers of the school as return addressed on this card.)

☐ Our school does not wish to participate in this media study.

College of Education
Professional Studies
201 Curtiss Hall
Ames, Iowa 50010

IOWA STATE
UNIVERSITY

Telephone: 515-294-4143

March 26, 1971

Dear Regional Staff Member,

Presently I am Director of Media Services at a small college in Minnesota, so I am well aware of how busy all members of the regional educational media centers must be.

I am conducting a research study in cooperation with the Iowa Department of Public Instruction under the supervision of the Department of Professional Studies, College of Education, Iowa State University. In this study, I will hope to solicit the perceptions of elementary classroom teachers from these respective schools, of specific educational media and services presently being offered by the regional educational media center in their region (area). It is hoped that this consensus of views will provide your regional center with the thinking of elementary classroom teachers concerning specific media and services that are desirable in meeting their individual instructional needs.

After compilation of the responses to this questionnaire have been completed, it is my intention to report the findings to each regional media center. Your cooperation in answering any special questions that any elementary principal or elementary classroom teacher might ask will be appreciated. A copy of the questionnaire to be used is included for your personal examination.

Your cooperation and participation in this study is sincerely appreciated.

Respectfully,

Ray Bryan

Ray Bryan, Prof. In Charge
Department of Professional Studies
Iowa State University
Ames, Iowa 50010

Rex C. Ingram

Rex C. Ingram
Director of Media Services
Winona State College
Winona, Minnesota 55987

IOWA STATE
UNIVERSITY

College of Education
Professional Studies
201 Curtiss Hall
Ames, Iowa 50010

Telephone: 515-294-4143

March 26, 1971

Dear Elementary School Principal,

I am conducting a research project in cooperation with the Iowa Department of Public Instruction under the supervision of the Department of Professional Studies, College of Education, Iowa State University. This study is concerned with elementary classroom teachers' perceptions of the educational media and services presently provided by your regional (area) center. A state wide sample of elementary attendance centers has been drawn. The attendance center where you are principal has been included in this sample.

This study is designed for a questionnaire response from each elementary school teacher under your supervision. The completion time for this questionnaire should involve no more than 15 minutes of the teacher's time. Will you be willing to distribute, collect, and return these questionnaires for this study? The returns of this questionnaire will be treated in strictly a confidential manner and no school or individual response will be identifiable.

Your cooperation in this study should provide the regional educational media center in your area with the information needed to provide more desirable media and services. Included in this envelope you will find a postal card to indicate your willingness to participate in this study. You need make no other formal reply. A packet of materials and instructions will be sent to you upon notification of your wish to participate. Because of the interest in this study, it would be helpful if you would return the postal card by April 15, 1971.

Thank you for your participation and cooperation in this matter.

Respectfully,

Ray Bryan

Ray Bryan, Prof. In Charge
Department of Professional Studies
Iowa State University
Ames, Iowa 50010

Rex Ingram

Rex C. Ingram
Director of Media Services
Winona State College
Winona, Minnesota 55987

College of Education
Professional Studies
201 Curtiss Hall
Ames, Iowa 50010

IOWA STATE
UNIVERSITY

Telephone: 515-294-4143

April 19, 1971

Dear Elementary School Principal,

Two weeks ago questionnaires were sent to your office requesting the cooperation of your elementary classroom teachers in a state wide study of Iowa's Regional (Area) Media Centers. As yet, these questionnaires have not been returned. Since this study is being done on a stratified, state wide sample, it is important that all elementary schools that have elected to participate do so.

This study is concerned with elementary classroom teachers' perceptions of the educational media and services presently provided by your regional (area) media center. A state wide sample of elementary attendance centers was drawn. The attendance center where you are principal was chosen.

If your elementary classroom teachers have already completed the questionnaires and returned them, please disregard this letter. Because of the interest that has been expressed in this study, it would be helpful if you would return the questionnaires you now have by May 3, 1971.

All information received in the study will be held in confidence and no school or individual response will be identifiable.

Thank you very much for your prompt return of the questionnaires and you and your staff's participation in this study.

Respectfully,

Rex C. Ingram
Director of Media Services
Winona State College
Winona, Minnesota 55987

College of Education
Professional Studies
201 Curtiss Hall
Ames, Iowa 50010

IOWA STATE
UNIVERSITY

Telephone: 515-294-4143

May 3, 1971

Dear Elementary School Principal,

Four weeks ago questionnaires were sent to your office requesting the cooperation of your elementary classroom teachers in a state wide study of Iowa's Regional (Area) Educational Media Centers. As yet, these questionnaires have not been returned. Since this study is being done on a stratified, state wide sample, it is important that all elementary schools that have elected to participate do so.

This study is concerned with elementary classroom teachers' perceptions of the educational media and services presently provided by your regional (area) media center. A state wide sample of elementary attendance centers was drawn. The attendance center where you are principal was chosen.

If your elementary classroom teachers have already completed the questionnaires and returned them, please disregard this letter. Because of the interest that has been expressed in this study, it would be helpful if you could return the questionnaire you now have by May 14, 1971.

All information received in the study will be held in confidence and no school or individual response will be indentifiable.

Thank you very much for your prompt return of the questionnaires and you and your staffs' participation in this study.

Respectfully,

Rex C. Ingram
Director of Media Services
Winona State College
Winona, Minnesota 55987

QUESTIONNAIRE

Instructions: Please indicate if you meet all of the following criteria as listed for this study.

Criteria: ☐ yes ☐ no

1. You have used materials and/or services from the regional (area) media center in your area?
2. You teach a single grade level in a self-contained elemementary classroom?
3. You teach the subjects of science, social sciences, mathematics, and language arts?

If yes, please complete both parts A and B of this questionnaire.
If no, please complete only part A of this questionnaire

PART A

1. Please indicate the highest college or university degree you have received by placing an X before the appropriate level. ☐ No degree ☐ Bachelor ☐ Master ☐ Specialist ☐ Doctor

2. ☐ yes ☐ no Within the last five years have you taken a course for college credit in media (library or audio-visual)?

3. Please indicate sex. ☐ male ☐ female

4. Please indicate the total number of years of elementary classroom teaching experience you have had.
☐ 1-3 years ☐ 4-6 years ☐ 7-9 years ☐ 10 years or longer

5. Please indicate the grade level which you are currently teaching.
☐ Pre-K ☐ Kindergar. ☐ Gr. 1 ☐ Gr. 2 ☐ Gr. 3 ☐ Gr. 4 ☐ Gr. 5 ☐ Gr. 6

6. ☐ yes ☐ no Please indicate if your school district provides a full-time media director (librarian or audio-visual person).

7. ☐ yes ☐ no Do you have access to catalogs or printed lists of materials made available from the regional educational media center located in your area?

PART B

8. Please indicate your present classroom needs for each subject listed. Circle 1 for no need, circle 2 for a need for increased quantities, circle 3 for a greater variety, circle 4 for a need to update this type of media, and circle 5 for a need to be more easily obtained. (Circle any numbered need that you feel applies to the subject matter and corresponding media. You may circle more than one need if desirable.)

1-HAVE NO NEED | 2-NEED INCREASED QUANTITY | 3-NEED GREATER VARIETY | 4-NEED TO BE UPDATED | 5-NEED TO BE MORE EASILY OBTAINED

(Example: If it was my feeling that the science and language arts materials at the regional center should be updated and that all of the media should be more easily obtained, I would show this as EXAMPLE 1.)

SUBJECT AREA

Types of Media	Science	Social Sciences	Mathematics	Language Arts
EXAMPLE 1 (above)	1 2 3 (4) (5)	1 2 3 4 (5)	1 2 3 4 (5)	1 2 3 (4) (5)
Books	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Periodicals	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Films	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Filmstrips	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Slides	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Disc Recordings	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Tape Recordings	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Transparencies	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Study Prints	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Multi-Media Kits	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Realia(maps, globes, charts)	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Other (indicate)	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

SCIENCE

9. In the following diagram, first indicate which type of science media you have used from the regional educational media center by circling yes or no to the types of media listed vertically (Columns I and II). Secondly, read across the columns to rank the materials characteristics of each type of media you have utilized. Please circle number 1 for poor characteristics of the specific media, circle number 2 for below average characteristics, circle number 3 for average characteristics, circle number 4 for very good characteristics, and circle number 5 for superior characteristics.

1-POOR 2-BELOW AVERAGE 3-AVERAGE 4-VERY GOOD 5-EXCELLENT

		MATERIALS CHARACTERISTICS					
Types of Science Media Col. I	I have used the following media: Col. II	Relevance to my curriculum and/or study	Sufficiency (quantity of instructional materials available)	Variety (different types of instructional materials available)	Quality of content of instructional materials	Timeliness (materials are up to date)	Physical condition
Books	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Periodicals	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Films	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Filmstrips	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Slides	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Disc Recordings	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Tape Recordings	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Transparencies	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Study Prints	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Multi-Media Kits	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Realia (maps, globes, charts)	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

SOCIAL SCIENCES

9a. In the following diagram, first indicate which type of social sciences media you have used from the regional educational media center by circling yes or no to the types of media listed vertically (Columns I and II). Secondly, read across the columns to rank the materials characteristics of each type of media you have utilized. Please circle number 1 for poor characteristics of the specific media, circle number 2 for below average characteristics, circle number 3 for average characteristics, circle number 4 for very good characteristics, and circle number 5 for superior characteristics.

1-POOR 2-BELOW AVERAGE 3-AVERAGE 4-VERY GOOD 5-EXCELLENT

		MATERIALS CHARACTERISTICS					
Types of Social Sciences Media Col. I	I have used the following media: Col. II	Relevance to my curriculum and/or study	Sufficiency (quantity of instructional materials available)	Variety (different types of instructional materials available)	Quality of content of instructional materials	Timeliness (materials are up to date)	Physical condition
Books	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Periodicals	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Films	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Filmstrips	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Slides	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Disc Recordings	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Tape Recordings	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Transparencies	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Study Prints	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Multi-Media Kits	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Realia (maps, globes, charts)	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

MATHEMATICS

9b. In the following diagram, first indicate which type of mathematics media you have used from the regional educational media center by circling yes or no to the types of media listed vertically (Columns I and II). Secondly, read across the columns to rank the materials characteristics of each type of media you have utilized. Please circle number 1 for poor characteristics of the specific media, circle number 2 for below average characteristics, circle number 3 for average characteristics, circle number 4 for very good characteristics, and circle number 5 for superior characteristics.

1-POOR 2-BELOW AVERAGE 3-AVERAGE 4-VERY GOOD 5-EXCELLENT

Types of Mathematics Media Col. I	I have used the following media: Col. II	MATERIALS CHARACTERISTICS Relevance to my curriculum and/or study	Sufficiency (quantity of instructional materials available)	Variety (different types of instructional materials available)	Quality of content of instructional materials	Timeliness (materials are up to date)	Physical condition
Books	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Periodicals	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Films	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Filmstrips	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Slides	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Disc Recordings	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Tape Recordings	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Transparencies	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Study Prints	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Multi-Media Kits	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Realia (maps, globes, charts)	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

LANGUAGE ARTS

9c. In the following diagram, first indicate which type of language arts media you have used from the regional educational media center by circling yes or no to the types of media listed vertically (Columns I and II). Secondly, read across the columns to rank the materials characteristics of each type of media you have utilized. Please circle number 1 for poor characteristics of the specific media, circle number 2 for below average characteristics, circle number 3 for average characteristics, circle number 4 for very good characteristics, and circle number 5 for superior characteristics.

1-POOR 2-BELOW AVERAGE 3-AVERAGE 4-VERY GOOD 5-EXCELLENT

		MATERIALS CHARACTERISTICS					
Types of Language Arts Media Col. I	I have used the following media: Col. II	Relevance to my curriculum and/or study	Sufficiency (quantity of instructional materials available)	Variety (different types of instructional materials available)	Quality of content of instructional materials	Timeliness (materials are up to date)	Physical condition
Books	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Periodicals	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Films	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Filmstrips	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Slides	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Disc Recordings	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Tape Recordings	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Transparencies	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Study Prints	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Multi-Media Kits	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
Realia (maps, globes, charts)	yes no	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

10. Please indicate those types of materials that have been produced for you at your area's regional educational media center. When your indication is yes, please rate the services that you have been provided.

			Poor ——→ Excellent
yes	no	Printing.....if yes.....	1 2 3 4 5
yes	no	Photographic Services.....if yes.....	1 2 3 4 5
yes	no	Collating.....if yes.....	1 2 3 4 5
yes	no	Binding.....if yes.....	1 2 3 4 5
yes	no	Transparency.....if yes.....	1 2 3 4 5
yes	no	Other_____	1 2 3 4 5

11. Please indicate the most desirable interval of delivery for media being requested from the regional educational media center.

- ____ Twice daily (once in the morning and once in the evening)
- ____ One time daily (the morning)
- ____ One time daily (the afternoon)
- ____ Four times a week
- ____ Three times a week
- ____ Twice a week
- ____ Once a week
- ____ Other (please indicate)_____

12. Please indicate the system of materials delivery from the regional educational media center that you feel is the most adequate to meet your instructional needs.

- ____ The U. S. Mail
- ____ Delivery van from the regional center
- ____ Other (Specify)_____

13. Please indicate the need you have for an <u>in-service media program</u> sponsored by the regional educational media center in your area. Please <u>circle number 1 for no need</u>, <u>circle 2 for some need</u>, <u>circle 3 for a moderate need</u>, <u>circle number 4 for much need</u>, and <u>circle number 5 for a great need</u> for this type of in-service media program.

1-NO NEED 2-SOME NEED 3-MODERATE NEED 4-MUCH NEED 5-GREAT NEED

Equipment Operation	1 2 3 4 5	New and Innovative Media	1 2 3 4 5
Equipment Maintenance	1 2 3 4 5	Administration of a local Media program	1 2 3 4 5
Material Selection	1 2 3 4 5	Operational Procedures	1 2 3 4 5
Preparation of Material	1 2 3 4 5	Cataloging Procedures	1 2 3 4 5
Utilization of Media	1 2 3 4 5	Photographic Techniques	1 2 3 4 5
		Other (indicate)_____	1 2 3 4 5

14. Please indicate the most effective means of providing you with the type of in-service information you would desire.

___ Extension Classes (with graduate college credit)

___ Extension Classes (without college credit)

___ Short Courses

___ Teachers' Meetings

___ Workshops (with graduate college credit)

___ Workshops (without college credit)

___ Other (indicate)_____

_____

APPENDIX B

Question 10. Responses to other: Please indicate those types of materials that have been produced for you at your area's regional educational media center.

10. 1. Tapes reproduced*

10. 2. They are enlarging sheet music for a student of ours with a sight problem.

10. 3. We have had Kindergarten meetings when people from the office would show sample units, etc., being developed.

10. 4. Dry mounting pictures*

10. 5. Laminating*

*indicates more than one response

Question 11. Responses to other: Please indicate the most desirable interval of delivery for media being requested from the regional educational media center.

11. 1. On request

11. 2. Once a month

11. 3. Any type of delivery would be appreciated.

11. 4. On date requested

11. 5. On demand

11. 6. Librarian

11. 7. Four weeks (approximately)

11. 8. I collect my own

11. 9. No opinion

11. 10. Some time Saturday morning or Friday after school when the media center would be open for teachers to browse and pick up material. Also an opportunity to know just what is available (first-hand knowledge).*

11. 11. Five times a week

11. 12. Whenever you go after the materials

11. 13. Depends on books or what it is.

11. 14. We mail ours from the local post office about 2 days before they are due.

*indicates more than one response

Question 12. Responses to other: Please indicate the system of materials delivery from the regional educational media center that you feel is the most adequate to meet your instructional needs.

12. 1. Teacher delivers enroute to school

12. 2. Personal pick-up by specified personnel*

12. 3. I am not concerned how the materials get to our school. My main concern is that they are here when I need them.*

12. 4. I pick them up and return them personally.*

12. 5. Films by U. S. Mail and books by delivery van.*

12. 6. A mobile bus to let us pick and choose from the materials available.

12. 7. None for elementary that I know about.

12. 8. Delivery van from the regional center, if daily.

12. 9. Librarian (every fourth week)*

12. 10. Either (U. S. Mail or Delivery van)

12. 11. Delivery van from our school

12. 12. Delivery man from central office

12. 13. Man hired by our local school system

12. 14. Would use more if there were a different means (person) to get them.

12. 15. Which ever (sic) is the most economical*

12. 16. Pick-up system by audio-visual coordinator*

12. 17. I believe I would appreciate a system of confirmation, so I'd know when material would be available.

12. 18. Ours come through the mail and sometimes this isn't too satisfactory.

12. 19. Pony Express

*indicates more than one response

Question 13. Responses to other: Please indicate the need you have for an in-service media program sponsored by the regional educational media center in your area.

13. 1. In-service at our local school

13. 2. In-service program to acquaint new teachers with availability of materials and procedures for this specific media center. (I feel well trained and eager to use the media but haven't learned how to obtain it.)

13. 3. Laminating

13. 4. Equipment to use

13. 5. Many of us work in small classrooms difficult to darken and use for films, etc. We need help with ideas to make the best of bad situations at a low cost to the school.

13. 6. More information of what is available in materials and services.*

*indicates more than one response

Question 14. Responses to other: Please indicate the most effective means of providing you with the type of in-service information you would desire.

14. 1. In-service meetings

14. 2. Room visitations in other schools*

14. 3. Maybe a tour to acquaint myself with the materials should come first.*

14. 4. Fall workshops in-service days.

14. 5. Short meetings explaining one thing at a time; i.e., one new media or technique.

14. 6. Should give credit toward a B.A. also.

14. 7. None needed*

14. 8. Audio-visual workshops for undergraduate credit*

14. 9. Pamphlets or newsletters advertising some material and kits available. If materials and kits are just setting (sic) in the center, there is a need for frequent advertising of what you have.

14. 10. Workshops (for undergraduates) college credit*

14. 11. I have little need for materials not available in our own building.

14. 12. Our in-service meetings

14. 13. Workshop at the media center perhaps one full day or two half-day sessions.

14. 14. Special education workshops

14. 15. Extension classes and workshops with undergraduate credit.*

14. 16. The materials are good but we (I) have not learned to use them. An in-service day at the first of the year to show what is available and how to order would be a good idea.

14. 17. Voiced from one teacher to another (specific or chosen special teachers).

14. 18. I don't feel that I am in a position to answer.*

Question 14. (continued)

14. 19. Lectures on various topics (interesting persons)

14. 20. Grade level trips to the media center (all sixth grade teachers at one time).

*indicates more than one response

APPENDIX C

Table 67. Analysis of variance summary table of perception scores regarding materials characteristics--science books

	df	Sum of Squares	Mean Square	F
		Relevance		
Between	6	5.79	.965	1.5970
Within	638	385.32	.604	
Total	644	391.11		
		Sufficiency		
Between	6	8.99	1.499	1.9583
Within	638	488.25	.765	
Total	644	497.24		
		Variety		
Between	6	7.73	1.289	1.4864
Within	638	553.10	.867	
Total	644	560.83		

Table 67. (continued)

	df	Sum of Squares	Mean Square	F
		Quality		
Between	6	8.63	1.438	2.2779
Within	638	402.65	.631	
Total	644	411.28		
		Timeliness		
Between	6	5.47	.911	1.2038
Within	638	482.97	.757	
Total	644	488.44		
		Physical Condition		
Between	6	19.87	3.312	4.7323
Within	638	446.54	.700	
Total	644	466.41		

Table 68. Analysis of variance summary table of perception scores regarding materials characteristics--language arts periodicals

	df	Sum of Squares	Mean Square	F
		Relevance		
Between	6	6.66	1.111	1.8134
Within	150	91.88	.613	
Total	156	98.55		
		Sufficiency		
Between	6	4.28	.713	.7539
Within	150	141.81	.945	
Total	156	146.09		
		Variety		
Between	6	5.32	.887	.9516
Within	150	139.79	.932	
Total	156	145.11		

Table 68. (continued)

	df	Sum of Squares	Mean Square	F
		Quality		
Between	6	5.35	.891	1.1076
Within	150	120.73	.805	
Total	156	126.08		
		Timeliness		
Between	6	9.64	1.606	1.6872
Within	150	142.80	.952	
Total	156	152.43		
		Physical Condition		
Between	6	18.97	3.162	3.4510
Within	150	137.46	.916	
Total	156	156.43		

Table 69. Analysis of variance summary table of perception scores regarding materials characteristics--science films

	df	Sum of Squares	Mean Square	F
		Relevance		
Between	6	17.75	2.959	4.6531
Within	934	593.94	.636	
Total	940	611.69		
		Sufficiency		
Between	6	11.26	1.877	2.2536
Within	934	777.84	.833	
Total	940	789.10		
		Variety		
Between	6	17.15	2.859	3.4286
Within	934	778.86	.834	
Total	940	796.02		

Table 69. (continued)

	df	Sum of Squares	Mean Square	F
		Quality		
Between	6	16.04	2.673	4.0201
Within	934	621.14	.665	
Total	940	637.18		
		Timeliness		
Between	6	28.46	4.744	5.8322
Within	934	759.74	.813	
Total	940	788.21		
		Physical Condition		
Between	6	18.87	3.145	4.0901
Within	934	718.24	.769	
Total	940	737.11		

Table 70. Analysis of variance summary table of perception scores regarding materials characteristics—social sciences films

	df	Sum of Squares	Mean Square	F
		Relevance		
Between	6	30.99	5.166	8.6112
Within	935	560.89	.600	
Total	941	591.88		
		Sufficiency		
Between	6	19.99	3.332	4.1444
Within	935	751.81	.804	
Total	941	771.80		
		Variety		
Between	6	12.73	2.122	2.7333
Within	935	725.86	.776	
Total	941	738.59		

Table 70. (continued)

	df	Sum of Squares	Mean Square	F
		Quality		
Between	6	25.71	4.286	7.2362
Within	935	553.75	.592	
Total	941	579.46		
		Timeliness		
Between	6	29.08	4.847	6.3713
Within	935	711.33	.761	
Total	941	740.41		
		Physical Condition		
Between	6	14.91	2.486	3.2437
Within	935	716.51	.766	
Total	941	731.42		