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THE RELATIONSHIP BETWEEN TEACHERS' RATINGS
OF THE MINIMAL READING SKILLS OF THE
MICHIGAN EDUCATIONAL ASSESSMENT PROGRAM
AND STUDENT ACHIEVEMENT

By

Larry A. Strong

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ABSTRACT

THE RELATIONSHIP BETWEEN TEACHERS' RATINGS OF THE MINIMAL READING SKILLS OF THE MICHIGAN EDUCATIONAL ASSESSMENT PROGRAM AND STUDENT ACHIEVEMENT

By

Larry A. Strong

Purpose of the Study

The purpose of this study was to determine (1) to what degree teachers value the minimal reading skills of the Michigan Educational Assessment Program, and (2) the relationship between student achievement and teachers ratings (value) placed on the reading objectives.

Procedure and Design

Teachers' ratings of the minimal reading objectives grade four of the Michigan Educational Assessment Program (MEAP) were collected from 296 primary teachers from 42 elementary buildings in 21 school districts in Oakland County, Michigan. The districts were stratified into five classifications by type based on the reporting format used in the Michigan Educational Assessment Program.

Two measuring instruments were used in this study;

- (1) The survey instrument, Primary Teacher's Ratings of the Michigan Educational Assessment Program Reading Objectives: Grade Four, (2) The Michigan Educational Assessment Program 1973-1974 Grade Four Reading Objectives Test.

The other variables studied were the selected teacher characteristics of; classification, sex, degree level, years of teaching experience and grade level taught.

The four general hypotheses tested were:

1. Classroom teachers agree that the Michigan Educational Assessment Program reading objectives are minimal.
2. Selected characteristics of classroom teachers will have no effect on the value (rating) teachers give to the minimal reading objectives.
3. There is a relationship between student achievement on the Michigan Educational Assessment Program reading objectives and the value (rating) teachers place on the objectives.
4. The value (rating) teachers place on the objectives will vary among the five classifications of school districts represented in the total population.

Major Findings and Conclusions

1. Elementary teachers do not consider the Michigan Educational Assessment Program Reading Objectives to be minimal.
2. The type (classification) of school district and the years of teaching experience do effect the value (rating) teachers give to the reading objectives.
3. This study failed to find a statistically significant relationship between teachers' ratings of the reading objectives and student achievement.

4. The value (rating) teachers gave to the reading objectives did vary between the type (classification) of school district.

All of the objectives are considered to be 'minimal by the Michigan Department of Education. Variation on the ratings by the subjects in this study indicate interrespondent and intrarespondent differences relative to the value of these objectives. It is questionable whether all of the objectives should be viewed as essentially equal in importance.

Additional consideration on the importance of the reading objectives should be a high priority of the Michigan Department of Education. If the Department is going to continue to define the objectives as minimal, further teacher support must be collected and documented.

ACKNOWLEDGEMENTS

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CHAPTER I

THE PROBLEM

Statement of the Problem

The assessment of educational progress is presently receiving attention at the national, state, and local level. Assessment programs are being conducted to ascertain the educational achievement of students in public schools.

In Michigan, the Assessment of Educational Progress is one component of a six step State Accountability Model. This model was developed by the Michigan Department of Education and includes the following components; (1) Common Goals, (2) Objectives, (3) Assessment, (4) Analysis of Delivery Systems, (5) Evaluation, (6) Recommendations.

The Michigan Department of Education is presently assessing the achievement of all fourth grade pupils in the State of Michigan on nineteen reading objectives. Previously, the Department assessed twenty-three reading objectives but according to a recent Department publication, some objectives and test items were deleted with the advice of professional organizations and curriculum specialists.¹

The development of the performance objectives, which identifies what "ought to be taught", is the second step of the State Board of Education's Accountability Model. The development of the criterion reference test, or objective reference test is an important component

¹ Michigan Department of Education, Objectives and Procedures 1974-75, Lansing, Michigan, August 1974, p. 16.

of the third step of the Board's Accountability Model.

Grade level commissions were established by the Michigan Department of Education in 1971. These commissions were composed of teachers, curriculum specialists, school administrators, and citizens. The commissions were given the responsibility of reviewing performance objectives developed by various referent groups. These performance objectives represented the state-wide consensus of subject matter experts, educators, and other citizens on the minimal levels of attainment in reading and represented skills necessary for proficiency in reading at the end of the appropriate grade level.

The basic purpose of the Michigan Educational Assessment Program has been identified as the communication of information to various publics in Michigan about the educational level of Michigan Schools. Specifically the objectives of the assessment program call for (1) providing information to state-level government agencies and the public concerning basic skill levels of attainment, (2) providing local districts with similar information, and (3) providing a longitudinal picture of skills attainment within the state as a whole.

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"Assessment Based on Predetermined Objectives", Michigan Education, June 1972, Vol. 41, No. 9, p. 3.

3

Michigan Department of Education, Objective-Referenced Test: A Summary, Lansing, Michigan, Fall 1973, p. 1.

4

Herbert C. Rudman, "Between Us . . .", The Michigan Elementary Principal, Vol. L, No. 1, February 1974, p. 10.

Importance of the Study

The selection of performance objectives for instructional purposes is receiving a high priority as a prerequisite to the development of instructional programs. The assumption underlying the selection of objectives is that they are perceived to be of value by classroom teachers.

If classroom teachers do not value objectives then it is unlikely that they will receive much emphasis in the instructional process and therefore will have minimal impact on student achievement.

The Michigan Department of Education has maintained that the objectives selected for assessment purposes were minimal and should be attained by all beginning fourth grade students in the State of Michigan.⁵ The Department has also determined that attainment of an objective is based on eighty percent mastery, which is having students answer four out of five test items correctly.

The Department has maintained that where large numbers of students in a school or district have not attained the objectives, educators should examine the local curriculum to determine whether students have received instruction toward the objectives or whether changes should be made. The changes may include additional instruction, additional resources to provide new or additional materials

⁵ Michigan Department of Education, School and District Reports: Explanatory Materials, 1973-74, Lansing, Michigan, October 1973, p. 2.

6

and shifts in the sequence and pacing of instruction.

The Michigan Department of Education has stated, "It is our hope that the objectives which will form the basis of the final assessment instrument will indeed be considered important minimal objectives, and that they are sensitive to instruction."⁷

The Michigan Department of Education has modified their previous position on objectives in a later publication. They now maintain that the reading objectives are ones for which it is desirable to have most students attain. A minimal objective, therefore, is one⁸ which students should be able to attain as soon as possible.

Data collected in the 1973-74 Michigan Educational Assessment Program reveals that an average of fifty-five percent of the students in the State of Michigan attained the minimal reading objectives at grade four. Five percent of the reading objectives were attained by all students and district performance reveals that all districts in Michigan have failed to attain mastery of minimal objectives at grade⁹ four.

⁶ Michigan Department of Education, School and District Reports 1973-74, October 1973, p. 2.

⁷ Michigan Department of Education, Objective Referenced Test: Fall 1973, p. 1.

⁸ Michigan Department of Education, Objectives and Procedures 1974-75, August 1974, p. 3.

⁹ Herbert C. Rudman, "Between Us . . . ", Michigan Elementary Principal, Vol. L, No. 2, April 1974, p. 11.

What has accounted for the discrepancies between what the Department of Education established as minimal attainment and the actual performance of students on the objectives? Rudman states, "One can argue that the schools have fallen down in their task to meet these minimal objectives; someone else might question the ability of the framers of these objectives to project realistic minimal expectations; still another question might be raised concerning the appropriateness of defining minimal." Rudman goes on to say, "Data such as these leads me to conclude that the objectives measured during the 1973-74 academic year were simply not minimal for these grade¹⁰ levels."

Even though the Michigan Department of Education has stated that all of the objectives are minimal and should be achieved by all students at the appropriate grade level, they have suggested that local educators be particularly careful when examining their results on assessment to review the objectives for appropriateness and the test¹¹ items for soundness.

The Department of Education has also modified their previous position regarding the assessment of the objectives. The Department states, "Unfortunately, the nature of minimal objectives was frequently misunderstood during the last school year. The Department of Education

¹⁰

Rudman, Herbert C., "Between Us . . . ", Michigan Elementary Principal, Vol. L, No. 2, April 1974, p. 11.

¹¹

Michigan Department of Education, School and District Reports, October 1973, p. 12.

did not expect - based on empirical data - that the objectives would be attained by 90 to 100 percent of the State's students in the 1973-74 assessment. Indeed, available evidence suggests that attainment rates would vary among the objectives."¹²

This latest position of the Michigan Department of Education actually increases the need for further clarification. The previous position of the Department made it clear that all students in the State of Michigan were expected to achieve all of the minimal objectives at the appropriate grade level. The present position is that achievement rates will in fact vary among the objectives.

Research needs to be conducted which will indicate the appropriateness of the minimal skill objectives. Research should try to answer such questions as: To what extent do the minimal performance objectives in reading reflect consensus on the part of classroom teachers? To what extent do classroom teachers agree upon the importance of the objectives as minimal? Do classroom teachers agree that these objectives reflect, "what is to be taught?" What factors may account for the variation relative to attainment of the objectives?

The Michigan Department of Education has and is spending large sums of money developing and testing objectives. Local districts are also encouraged to develop objectives. Yet, the Department has spent little time, money, or effort on the validation of objectives.

Thus, information about the appropriateness of objectives relative to teachers' expectations should be a problem worthy of research. In addition, the fact that relationships may exist between the rated value of objectives and achievement is important because it could provide data on a variable related to student achievement that has not yet been sufficiently studied. If attainment rates do in fact vary, do they vary systematically relative to the importance teachers place on these objectives?

Purpose of the Study

The purpose of this study is to determine (1) to what degree teachers value the minimal reading skills of the Michigan Educational Assessment Program, and (2) the relationship between student achievement and teachers ratings (value) placed on the reading objectives.

Definition of Terms

Reading Objectives: Nineteen statements that are identified as objectives in reading for fourth grade students in the Michigan Assessment of Educational Progress.

Minimal Objective (Reading): A description of the skills in reading that should be attained by most students as soon as possible.

School District Classifications: A system of classification used in the Michigan Assessment of Educational Progress.

1. **Metropolitan Core Cities:** Communities are classified as Metropolitan Core Cities if they meet at least one of the following criteria:
 - a. The community is the central city of a Michigan Standard Metropolitan Statistical Area; or
 - b. the community is an enclave within the central city of a Michigan Standard Metropolitan Statistical Area; or
 - c. the community was previously classified as a Metropolitan Core City.
2. **Cities:** Communities are classified as Cities if they have a population of 10,000 or more and have not been classified as a Metropolitan Core City or Urban Fringe.
3. **Towns:** Communities are classified as Towns if they have a population of 2,500 to 9,999. Rural communities impacted by large military installations nearby are also classified as Towns.
4. **Urban Fringe:** Communities are classified as Urban Fringe regardless of their size, if they meet at least one of the following criteria:

- a. the mailing address of the community is a Metropolitan Core City or a City unless it is on a RFD Route; or
 - b. the community is within ten miles of the center of a Metropolitan Core City; or
 - c. the community is within five miles of the center of a City.
5. Rural: Communities are classified as Rural if they have a population of less than 2,500 or if their address is an RFD Route of a Town, City, Urban Fringe, or Metropolitan Core, and they lie outside the perimeter defined above under Urban Fringe.

Objective Rating Scale: A system used to rate the nineteen reading objectives identified in the Michigan Assessment of Educational Progress.

Rating

- 5 = Very important, critical, or essential
- 4 = Above average importance
- 3 = Average importance
- 2 = Below average importance
- 1 = Unimportant, inappropriate, or irrelevant.

Classroom Teacher: Those teachers in a school whose assignment is in grades 1, 2, or 3.

Assumptions

The validity of this study is affected by the following factors:

1. The nature and validity of the major sources of data which include: Michigan Educational Assessment Program, data on achievement for 1973-74.
2. The responses to the Five Scale Rating on objectives by classroom teachers in grades first, second, and third as true perceptions regarding the importance of objectives.
3. The findings of a relationship between achievement and teacher ratings is viewed as correlative and not causal.
4. The classification of School Districts:
(1) Metropolitan Core, (2) Cities, (3) Towns,
(4) Urban Fringe, (5) Rural as defined in the 1971-72 Third Report of the Michigan Educational Assessment Program, Michigan Department of Education, Lansing, Michigan.

Limitations

1. There will not be an attempt to control^{*} other variables related to achievement.
2. Generalizations will be limited to the population of Oakland County.

Objectives of the Study

This study has two major objectives:

1. To determine the value (rating) teachers place on the importance of the fourth grade minimal reading objectives.
2. To determine if a relationship exists between teachers' ratings of the minimal reading objectives and student achievement.

*

Many variables have been correlated with achievement. No attempt will be made to control those other variables beyond random selection of the sample.

Hypotheses to be Tested

Hypothesis I

Classroom teachers agree that the Michigan Educational Assessment Program reading objectives are minimal.

Hypothesis II

Selected characteristics of classroom teachers will have no affect on the value (rating) teachers give to the minimal reading objectives.

Hypothesis III

There is a relationship between student achievement on the Michigan Educational Assessment Program reading objectives and the value (rating) teachers place on the objectives.

Hypothesis IV

The value (rating) teachers place on the objectives will vary among the five classifications of school districts represented in the total population.

Organization of the Remainder of the Thesis

The statement of the problem, its importance, and objectives of the study were stated in Chapter I. The assumptions, limitations, definitions, and testable hypotheses were also stated.

In Chapter II the pertinent literature relevant to the problem is reviewed. It will be divided into the following sections: A chronological development of the Michigan Educational Assessment Program; research in objective based teaching and mastery learning; studies related to performance based education; research in the correlates of school performance; and research on the implications of criterion referenced measurement.

In Chapter III a detailed examination of the research design will be made. Procedures and methodology will be presented with sample selection, description of the sources of data, and the statistics to be used in the analysis of the data.

In Chapter IV the data are analyzed and Chapter V will consist of a summary, conclusions, and implications for future research.

CHAPTER II

RELATED LITERATURE

The Michigan Educational Assessment Program was initiated by the State Board of Education and was funded by the State Legislature through enactment of Public Law 307 in August, 1969. The goal of the program was to provide educators and citizens with information regarding the status and progress of Michigan's public schools so that they could make more informed decisions about education in the State.

Three major purposes guided the design and operation of the original assessment program. The three purposes were: (1) providing information to state-level government agencies and the public concerning basic skills level of attainment, (2) providing local districts with similar information and (3) providing a longitudinal picture of skills attainment within the state as a whole.¹

The Department of Education contracted with Educational Testing Service (ETS) for a battery of test items which were administered to all of Michigan's fourth and seventh grade students.² The test consisted of items in five areas: vocabulary, attitude toward school, reading, English and mathematics. In addition, the Department of Education collected data in two major areas: (1) District Human Resources; which included pupil/teacher ratio, average years of teaching experience, percent of

¹ Herbert C. Rudman, "Between Us . . .", The Michigan Elementary Principal, Vol. L., No. 1, February, 1974, p. 9.

² Educational Testing Service, Princeton, New Jersey

teachers with Masters Degrees and average teacher salary; (2) District financial resumes; which included state equalized valuation per pupil, local revenue per pupil, K-12 instructional expense per pupil and total operating expenditures per pupil.

The results of student achievement were presented to local districts through published documents of the Department of Education. Each school district received scores for district level achievement and building level achievement. In addition, each school district received composite achievement scores for every school district in Michigan. The Department of Education also encouraged local school districts to communicate to their respective publics the results of their district's achievement.

The release of achievement scores through local district communication and local newspaper releases created a furor across the state about components of the assessment program and comparative analysis across districts and between buildings. Some parents objected to particular questions regarding parental socio-economic status and student attitudes toward school; some school officials objected to the comparative reporting format used by newspapers and the release of Michigan districts' scores by the Department of Education.

The Department of Education responded to the criticism by holding hearings with school officials, parents and by publishing reports of precautions in the utilization of assessment data.³

³ Michigan Department of Education, Technical Reports (1970-1972); Local District Reports: Explanatory Materials (1970-1972); Individual Pupil Reports: Explanatory Materials (1970-1972); Michigan Educational Assessment Program, Lansing, Michigan.

The Department of Education also established a review panel of experts consisting of Michigan classroom teachers, administrators, university professors, content area specialists, counselors and a psychologist.⁴ The panel was established to make suggestions for changes in the assessment program.

During the years 1969-1972 revisions were made in the Michigan Assessment Program; individual items were changed or deleted, the pupil socio-economic status (SES) responses were eliminated and the attitude toward school section became an option for local districts.

In 1972 major revisions in the format of the assessment program were made. The assessment program became one component of the State's six step Accountability Model and the assessment test was based on criterion referenced measures rather than norm referenced measures.

The State Accountability Model was developed by the Department of Education for the purpose of providing a process for the improvement of educational services. Basically, the Accountability Model may be applied to any aspect of the educational enterprise in Michigan.⁵

The model consists of six steps: (1) Common Goals for Michigan Education, (2) Performance Objectives consistent with the goals, (3) Assessment of educational needs, (4) Analysis of Delivery Systems, (5) Evaluation and Testing and (6) Recommendations for Improvement.

⁴ Michigan Department of Education, Technical Report, Lansing, Michigan, 1970-1971, p. 4.

⁵ Michigan Elementary Principals Association, "Michigan's Educational Accountability Model", The Michigan Elementary Principal, Vol. L, No. 2, April 1974, p. 8.

The Model, or process implicit in the Model, is designed to be applied at the state level, district level, building level or individual pupil level. The Michigan Educational Assessment Program is directed toward fulfilling step two of the Model, Performance Objectives and step three, Assessment.

The development of performance objectives is based on the rationale that there exists a common core of objectives that transcends local district boundaries and for which all schools should be responsible for helping students attain. The Department's position is that these objectives do, in fact, exist; they are identifiable through a rational process and the effect is worthwhile.⁶

The reasons why the Department moved toward objective referenced tests (criterion referenced) are: (1) the Accountability Model specifically calls for such objective referenced assessment; (2) the development of performance objectives and tests tied directly to them is a useful process for educators because it clarifies instructional intentions; and (3) the objective referenced test data are much more specific and, hence, useful to teachers in better responding to individual student needs.⁷

The establishment of performance objectives and objective referenced tests raises several questions which need to be addressed. (1) Do

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Michigan Department of Education, An Assessment of the Michigan Accountability System, Lansing, Michigan, May, 1974, p. 8.

7

Michigan Department of Education, Michigan Accountability System, May, 1974, pp. 12-13.

8

the objectives reflect "consensus" on "what ought to be taught?" (2) What expectations should be made regarding student achievement on the performance objectives? (3) Do the objective referenced tests measure the attainment of the objectives? (4) What factors account for student achievement? (5) What factors account for the variation in student achievement among the objectives?

The establishment and development of performance or behavioral objectives for students is receiving increasing attention in the field of education. This increased attention is a result of the emphasis on assessment programs at the national and state level, the call for accountability in education, advancements in educational technology and the interest in competency or performance based teacher education programs.

Popham says, "The purpose of objectives can be their value in helping teachers identify more clearly, prior to instruction, the kinds of changes which should be promoted in learners. Statements of instructional objectives are nothing more than that, convenient descriptions of intended changes in learners."⁹

Tyler, who is known as "the father of behavioral objectives," says, "My experience with teachers has demonstrated that they found the

⁸
Michigan Department of Education, "The Criterion Referenced Test: Assessment Based on Predetermined Objectives", Michigan Education, Vol. 41, No. 9, June, 1972, p. 3.

⁹
James W. Popham, "Identification and Assessment of Minimal Competencies for Objectives-Oriented Teacher Education Programs", presentation to the American Educational Research Association, New Orleans, Louisiana, February, 1973, p. 3.

exercise of identifying and defining their educational objectives in terms of behavior helped them to recognize more clearly what they expected their students to learn."¹⁰

This increased attention to objectives is not new, but the sophistication in their use and structure has taken on new emphasis. In 1916 Boston teachers were required to draw up a list of words that all students should be able to spell by grade eight. In addition, requirements for English were stated in very precise behavioral terms and all students had to successfully exhibit these behaviors in order to graduate.¹¹

Woodruff and Kapfer¹² support the position that attention focused on objectives is not new. The curriculum has always been directed toward behavioral outcomes. These outcomes have traditionally been expressed in goal statements through state and local school board documents.

They indicate the direction of change toward more specific statements when they say:

The recent rigorous movement toward precise behavioral objectives was not initially a movement to substitute behaviors for learner goals. Such learner goals were already behaviors. Rather, the movement had one major thrust -- to state the

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Kaplan interview, "The Father of Behavioral Objectives Criticizes Them: An Interview with Ralph Tyler", Phi Delta Kappan, Vol. LV, No. 1, September, 1973, pp. 55-56.

11

Peter W. Airasian and George F. Madaus, "Criterion-referenced Testing in the Classroom", Measurement in Education, Vol. 3, No. 4, May 1972, p. 2.

12

Asahel D. Woodruff and Philip G. Kapfer, "Behavioral Objectives and Humanism in Education: A Question of Specificity", Educational Technology, January 1972.

behaviors precisely and in specific and concrete form. Then, given such statements, the intent was to translate the behavioral objectives directly into relevant learning experiences, and to recognize learning when it has occurred.¹³

Educational objectives have been identified by several official and semi-official bodies, namely, the various Presidential commissions on higher education, the American Council on Education, and the Educational Policies Commission of the National Education Association.

In 1944 the American Council on Education listed over 200 objectives which define student behavior. Statements of objectives were provided by the Educational Policies Commission in 1938, and a complete detailed collection of objectives was an outgrowth of the Mid-Century Committee on Outcomes in Elementary Education in 1953. A similar effort was made for the secondary level in 1957.

The Eight-Year Study, directed by Tyler (1934-1942) published a five volume report, Appraising and Recording Progress which deals with defining objectives and evaluation instruments.¹⁴

Bloom's Cognitive Taxonomy of Educational Objectives was developed in 1956 and Krathwohl's Affective Taxonomy of Educational Objectives in 1964 added to the general interest in objectives.

Thorndike's Psychology of Arithmetic listed more than 2,000 objectives for primary school arithmetic and Pendleton listed nearly

¹³
Woodruff and Kapfer, Educational Technology, January, 1972, p. 53.

¹⁴
Eugene Smith and Ralph Tyler, 'Appraising and Recording Student Progress', New York: Harper's, 1942, (citing) Phi Delta Kappan, September, 1973, p. 56.

3,000 objectives for high school English.

The National Assessment program begun in 1969 lists objectives in ten subject areas to be tested in four age groups. Each of the state developed assessment programs are also based on testing predetermined objectives.

Competency or performance based teacher education programs have also led to an increased demand for defining behavioral objectives. Rosner and Kay state, "Throughout all of the CBTE programs there has been a strong focus on instruction to specific student outcomes . . . "

Popham writes:

Without question the most important instructional advance in America during the 1960's was a widespread advocacy and increased use of measurable instructional objectives.

What marked the 1960's as unique with respect to instructional objectives was a coalescing of educational support; that is, the emergence of a critical mass of advocates who fostered clearly explicated goals. And in promoting the use of measurable instructional objectives, the programmed instruction movement should receive principal credit.

In fact, nothing illustrates this quite so well as Robert Mager's volume which was originally entitled Preparing Objectives for Programmed Instruction and which later became Preparing Instructional Objectives. Rarely during the history of education has a book with fewer pages and more white space been as influential

on the thinking and practice of American educators. Mager's sixty-two page opus not only contained a very readable message, it provided the reader with several practical skills, skills which most teachers did not possess.¹⁷

The present emphasis on behaviorally stated objectives has resulted in a proliferation of published objectives in instructional materials and sources available for objectives' selection.*

This increased emphasis on the importance of identifying performance objectives did not develop without criticisms.

Popham states:

Among the criticisms of measureable objectives was the contention that rigid prespecifications for instruction would tend to reduce the flexibility of our educational offerings. More significant, perhaps, was the criticism that an emphasis on behavioral objectives would draw educators toward pedestrian, more easily operationalized objectives rather than high level, difficult to measure goals. There were some readers who erroneously assumed that a proponent of measurable objectives on the grounds that they were a sine quo non in any rational plan of instruction and evaluation. In contrast, there was a smaller but vocal group (Eisner, 1966) who contended that a heavy emphasis upon measurable instructional objectives would, ultimately prove detrimental to the progress of education.¹⁸

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James Popham, "Instructional Objectives 1960-1970", Journal National Society for Programed Instruction, Vol. IX, No. 6, July, 1970, p.

*The Rand McNally Company's Elementary Science Learning by Investigating is reported based on a systematic plan of behavioral objectives. Milton Bradley Company's Goal: Language Development includes a learning objective for each lesson plan. The Zweig Company has published 785 behavioral objectives for mathematics instruction. Harcourt Brace Jovanovich Incorporated advertise the 1973 Stanford test as being based on clearly stated instructional objectives, and James Popham, as Director of the Instructional Objectives Exchange, Center for the Study of Evaluation, University of California, is providing a dissemination service by providing objectives and measuring devices to assist school personnel in their instructional and evaluation activities.

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Popham, Journal: National Society for Programed Instruction, p. 7

Charles Silberman criticized the use of behavioral objectives in his book, Crisis in the Classroom. He writes, "Indeed, the approach to instructional technology that most researchers are following (based on precise, measurable behavioral terms) is likely to compound what is wrong with American education -- its failure to develop sensitive, autonomous, thinking, humane individuals."¹⁹

Additional criticism against the behavioral objective movement is leveled at what is perceived to be an overemphasis on complex skills and abilities. There appears to be emphasis on specific learner behaviors reducing spontaneity, originality, and creativity in the classroom.

Atkins writes, "Riveting the teacher's attention to a few behavioral goals provides him with blinders that may limit his range. Directing him to hundreds of goals leads to a confusing, mechanical, pedagogic style with a concomitant loss of desirable spontaneity."²⁰

Ebel states several concerns about the use of behavioral objectives in education:

First, the definition of behavioral objectives has diverse meanings depending on the user. One cannot speak or even think clearly about behavioral objectives without defining which type of behavior he has in mind. Second, behavioral objectives are limited to instruction which aims at the cultivation of particular skills.

A third problem is that of specifying the behavioral

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Charles E. Silberman, Crisis in the Classroom, New York: Random House, 1970, p. 199.

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J. M. Atkins, "Behavioral Objectives in Curriculum Design: A Cautionary Note", The Science Teacher, May, 1968, p. 29.

objective in sufficient detail; therefore, to identify and specify all behaviors is an impossible task.

A fourth problem is specifying an appropriate level of skill or competence in the behavior. This task is also difficult, and frequently seems to be more trouble than it is likely to be worth. ²¹

Ebel goes on to write:

Nor should we insist that the statements be in behavioral terms. Our main business as teachers is developing the cognitive resources of our pupils, not shaping their behavior. The great majority of teachers at all levels who feel no urgent need to write out their objectives in detail, and in terms of behavior, are probably wiser on this matter than those who have exhorted them to change their ways. Too much of the current reverence for behavioral objectives is a consequence of not looking closely enough at their limitations. ²²

Kibler, Barker and Miles have summarized the controversy surrounding the use of behavioral objectives into three major questions. (1) Can all important outcomes of education be defined and measured behaviorally? (2) Can prespecification of objectives prevent teachers from achieving objectives which might arise unexpectedly during a course of instruction? (3) Will more trivial learner behaviors, which are the easiest to operationalize, receive a greater emphasis than more ²³ important educational outcomes?

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Robert L. Ebel, "Behavioral Objectives: A Close Look", Phi Delta Kappan, Vol. LII, No. 3, November, 1970, p. 172.

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Ebel, Phi Delta Kappan, November, 1970, p. 173.

²³

Robert J. Kibler, Larry L. Barker and David T. Miles, Behavioral Objectives and Instruction, Boston: Allyn and Bacon, Inc., 1972, pp. 23-24.

Popham says:

In spite of the very favorable overall reaction to explicit objectives during the past five to ten years, a small collection of dissident educators has arisen to oppose the quest for goal specificity. The trouble with criticisms of precise objectives isn't that they are completely without foundation. As conceded earlier, there are probably elements of truth in all of them. Yet, when we are attempting to promote the wide-scale adoption of precision in the classroom, there is the danger that many instructors will use the comments and objections of these few critics as an excuse from thinking clearly about their goals. Any risks we run by having behavioral goals are miniscule in contrast with our current state of confusion regarding instructional intentions. The objections against behaviorally stated goals are not strong enough. To secure a dramatic increase in instructional effectiveness we must abandon our customary practices of goal-stating and turn to a framework of precision.²⁴

While the controversy continues regarding the "for" or "against" behavioral objectives, a more realistic idea may be presented by Butts; he writes, "Performance objectives are inanimate until someone does something with them. Whether performance objectives are springboards²⁵ or coffin lids will depend on the intent of the user."

Statements of the Michigan Department of Education, through a series of publications, leaves the reader in a state of confusion regarding the Department's position. In a publication, Objective-Referenced Tests: A Summary, the Department states, "These performance objectives represent

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W. James Popham, "Probing the Validity of Arguments Against Behavioral Goals", paper presented to the American Educational Research Meeting, Chicago, Illinois, February 7-10, 1968, p. 12.

²⁵

David P. Butts, "Performance Objectives Necessary or Superfluous", presentation to The National Science Association Convention, Detroit, Michigan, April 2, 1973, p. 6.

skills necessary for proficiency in reading and mathematics at the end of the appropriate grade level." ²⁶ The same publication states, ". . . these objectives are intended to be minimal skills that should ²⁷ be acquired by every child at the end of third or sixth grade." In a June, 1972, publication the Department states, "The development of ²⁸ performance objectives, identifies what ought to be taught." In the 1973-74 School and District Reports publication, the Department has maintained that the "objectives selected for assessment purposes are minimal and should be attained by all beginning fourth and seventh ²⁹ grade students in the State of Michigan."

In a report prepared under contract with the Michigan Education Association (MEA) and the National Education Association (NEA), House, Rivers and Stufflebeam state, "It is certain that a consensus among Michigan educators has not been reached concerning minimal performance objectives; and it is doubtful that such a consensus could be achieved. Likewise, the claim that objections are minimal is unfounded, and there

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Michigan Department of Education, Objective-Referenced Test: A Summary, Lansing, Michigan, Fall, 1973, p. 1.

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Michigan Department of Education, Objective Referenced Test, Fall, 1973, p. 2.

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Michigan Department of Education, "Assessment Based on Predetermined Objectives", Michigan Education, Vol. 41, No. 9, June, 1972, p. 3.

29

Michigan Department of Education, School and District Reports: Explanatory Material 1973-1974, Lansing, Michigan, October, 1973, p. 2.

is considerable reason to believe the objectives are not minimal."³⁰

Womer writes, ". . . the prejudgment that all of the assessment objectives are truly minimal should not be accepted without careful personal evaluation."³¹

Rudman says:

One can argue that the schools have fallen down in their task to meet these minimal objectives; someone else might question the ability of the framers of these objectives to project realistic minimal expectations; still another question might be raised concerning the appropriateness of defining minimal. Data such as these leads me to conclude that the objectives measured during the 1973-74 academic year were simply not minimal for these grade levels.³²

In a 1974 publication the Department of Education states, "The reading and mathematics objectives are ones for which it is desirable to have most students attain; a minimal objective, therefore, is one which students should be able to attain as soon as possible."³³

In response to the contracted MEA, NEA reports the Department of Education admits to confusion regarding the definition of minimal performance objectives.

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Ernest R. House, Wendell Rivers and Daniel L. Stufflebeam, "An Assessment of the Michigan Accountability System", Phi Delta Kappan, Vol. LV, No. 10, June, 1974, pp. 664-665.

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House, Rivers and Stufflebeam, "An Assessment of Michigan Accountability", Phi Delta Kappan, June, 1974, p. 665.

32

Herbert C. Rudman, "Between Us . . . ", Michigan Elementary Principal, Vol. L, No. 2, April, 1974, p. 11.

33

Michigan Department of Education, Objectives and Procedures 1974-1975, Lansing, Michigan, August, 1974, p. 3.

The Department agrees that there is confusion over the term "minimal." On the one hand, a minimal objective might be thought of as reflecting only what students can do now as opposed to what is desirable for students to be able to do without regard to whether or not they can do it now. The former definition assumes the status quo to be the criterion of success for an objective whereas the latter definition encourages one to establish a criterion independently and a priori.

Unfortunately, many citizens and educators hold the expectation that the Department fully expected and, in fact, knew that the minimal objectives would be attained by almost all students during the 1973-1974 assessment. This was, however, not the case. The Department expected the objectives not to be attained by most of the students last fall but to be worthy of attainment as soon as possible (assuming the objectives were not changed in the review process) as a result of improved instruction.

The whole issue reduces itself to one of whether or not there exists a common core of objectives that transcend local district boundaries and for which all schools should be responsible for helping students attain. The Department's position is that these objectives do in fact exist, that they are identifiable through a rational process, and that the effort is worthwhile. 34

Another criticism about the performance objectives selected for assessment in Michigan is made in the MEA, NEA report. The writers state:

Only a relatively few persons have been involved in developing and choosing the objectives. Sampling procedures have not guaranteed that these persons are representative of the large population of persons who are concerned with education in Michigan. Moreover, testimony presented to our panel indicated that the objectives that were chosen do not represent consensual choices of even the small group of persons

who were involved in the development of objectives.

The Michigan Department of Education responded to this criticism by stating:

The Department admits that it did not poll each of the state's 100,000 professional teachers regarding the performance objectives and, to that extent, did not produce a consensus. However, the performance objectives were not developed in the dark under a bushel basket but were, instead, developed with the assistance of hundreds of teachers, curriculum specialists and administrators.

Furthermore, each set of objectives was reviewed and approved by a panel of educators, citizens and students, and by the Council on Elementary and Secondary Education before being recommended to the State Board of Education. Even so, the Department recognizes that the performance objectives should not be considered perfected at this point but subject to further review and revision. In fact, the Department is actively encouraging local educators to analyze the objectives and share their comments with the Department's instructional specialists. Additionally, contracts have been issued to the Michigan Council of Teachers of Mathematics and to the Michigan Reading Association to review the results of the 1973-1974 educational assessment and the original performance objectives and recommend changes which might be used to improve the quality of the objectives and the assessment program.³⁶

It is, therefore, apparent that controversy exists in the Michigan Educational Assessment Program regarding the selection of objectives and their appropriateness. Unless this controversy is resolved, performance

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House, Rivers and Stufflebeam, "An Assessment of Michigan Accountability", Phi Delta Kappan, June, 1974, pp. 664-665.

36

Michigan Department of Education, Assessment of the Accountability System, Lansing, Michigan, May, 1974, pp. 6-7.

objectives in the assessment program will be viewed as "springboards" or "coffin lids" depending on the intent of the user.

Bell writes, "Only those objectives that have the commitment and concern of the principal and faculty will have a chance for accomplishment during the academic year. Imposed objectives not accepted by the faculty and the principal will most likely not result in beneficial results for anyone."³⁷

Tyler says, "Unless the teacher understands the objectives, he is supposed to be helping students attain, and unless he believes that students can attain them, it is unlikely that he will give real attention to them."³⁸

The development of performance objectives in the Michigan Educational Assessment Program necessitated a change in the type of test previously used by the Department of Education.

During the summer of 1971 the Department contracted with four Michigan school districts to write test items for the Michigan Assessment Program. Each local district selected a team of writers who were trained in test writing procedures by California Test Bureau, McGraw-Hill (CTB). Each writing team was given the assignment of writing test items to predetermined objectives in reading and mathematics.

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Terrel H. Bell, "Accounting for What Youngsters Learn", American Association of School Administrators, 105th Annual Convention, San Francisco, California, March 17-21, 1973, p. 3.

38

Kappan, "An Interview with Ralph Tyler", Phi Delta Kappan, September 1973, p. 56.

The test items developed and selected would replace the previous test items used in Michigan Assessment and data would be reported as criterion-referenced rather than as norm-referenced.

The Michigan Department of Education states:

The new objective-referenced tests are designed to reveal specific skills that students have or have not attained. This is done by constructing brief tests each of which reliably measure a single learner objective.³⁹

An objective-referenced test is one that contains items which are written to measure particular performance objectives.

This test differs from standardized tests in one important way. Standardized, or norm-referenced tests, are used to determine the performance of a student in relation to other student's performance on the test.

Objective-referenced tests do not contain these comparisons. No attempt is made to rank order the students, i.e., separate the students from the highest scoring or best to the lowest scoring or the worst. Instead, a student's performance is examined on each objective the test measures.⁴⁰

Making a distinction between norm-referenced and criterion-referenced tests, Glaser says:

When norm-referenced measures are used, a particular student's achievement is evaluated in terms of a comparison between his performance and the performance of other members of the group. Such measures need provide little or no information about the degree of proficiency exhibited by the tested behaviors in terms of what the individual can do. They tell that one student is more or

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Michigan Department of Education, Objectives and Procedures, Lansing, Michigan, August, 1973, p. 3.

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Michigan Department of Education, Objective Referenced Test, Fall, 1973, p. 2.

less proficient than another, but do not tell how proficient either of them is with respect to the subject matter tasks involved.⁴¹

Another distinction made by Glaser is related to the purposes of items selected for testing; he writes:

. . . items most suitable for measuring individual differences in achievement are those which will differentiate among individuals all exposed to the same treatment variable, while items most suitable for distinguishing between groups are those which are most likely to indicate that a given amount or kind of instructional treatment was effective.⁴²

Airaslan and Madaus indicate that the distinction between norm and criterion-referenced tests are not new by citing Thorndike. In 1918 Thorndike wrote:

There are two somewhat distinct groups of educational measurements: one . . . asks primarily how well a pupil performs a certain uniform task; the other . . . asks primarily how hard a task a pupil can perform with substantial perfection, or with some other specified degree of success. The former are allied to the so-called method of average error of the psychologists (norm-referenced); the latter, to what used to be called the method of "right and wrong cases (criterion-referenced)." Each of these groups of methods has its advantages, and each deserves extension and refinement though the latter seems to represent the type which will prevail if education follows the course of development of the physical sciences.⁴³

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Robert Glaser, "Instructional Technology and the Measurement of Learning", American Psychologist, Vol. 18, No. 8, August, 1963, p. 520.

42

Robert Glaser, American Psychologist, August, 1963, p. 520.

43

Airaslan and Madaus, Measurement In Education, May, 1972, p. 2, (citing) E. L. Thorndike, Seventeenth Yearbook of the National Society for the Study of Education, 1918.

Airasian and Madaus suggest four reasons for an increasing need and interest in criterion-referenced measurement.

First, there has been a growing criticism of testing, the focus of which has been on standardized tests of achievement and ability.

A second factor, closely related to the first, is the growing controversy surrounding grades.

A third factor generating interest in criterion-referenced tests has been the growth of the instructional technology movement. Instructional technologists soon realized that norm-referenced tests did not meet their needs in evaluating either individual performance or the efficacy of alternative instructional strategies.

A fourth factor contributing to the present interest in criterion-referenced measurement is the growing belief on the part of many educators that all or at least most students can learn, benefit from, or be helped to achieve competency in most subject areas.⁴⁴

Popham says, "What needs to be laid to rest at this point is the notion that the construction of objective-referenced tests is really different from the construction of norm-referenced tests; it is not."⁴⁶

Popham suggests that the traditional psychometric properties applied to norm-referenced tests may not be appropriate for the construction of criterion-referenced tests. He states:

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Airasian and Madaus, Measurement in Education, May, 1972, p. 2.

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Popham, Criterion Measurement, p. 19.

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Rudman, Michigan Elementary Principal, April, 1974, p. 11.

The basic difference between item construction in norm-referenced and criterion-referenced frameworks is a matter of set on the part of the item writer.

Most important, when a writer constructs items for a norm-referenced test, he wants variability and, as a consequence, makes all sorts of concessions, sometimes subtle, sometimes obvious, to promote variant scores.

The criterion-referenced item writer is guided by another goal. His chief rule is to make sure the item is an accurate reflection of the criterion behavior. This rather fundamental difference in set on the part of criterion-referenced and norm-referenced item writer can clearly contribute to differences in the resulting items.

In dealing with the traditional psychometric properties, Popham writes:

The issue of variability is at the core of the difference between norm-referenced and criterion-referenced tests.

With criterion-referenced tests, variability is irrelevant. The meaning of the score is not dependent on comparison with other scores; it flows directly from the connection between the items and the criterion.⁴⁷

In terms of the reliability of measures, Popham writes:

Now it is obvious that a criterion-referenced test should be internally consistent. If we argue that the items are tied to a criterion, then certainly the items should be quite similar in terms of what they are measuring. But although it may be obvious that a criterion-referenced test should be internally consistent, it is not obvious how to assess the internal consistency. The classical procedures are not appropriate. This is true because they are dependent on score variability.

. . . those wishing to improve criterion-referenced

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Popham, Criterion Measurement, p. 23.

tests should not be dismayed if the test, because of little score variance, yields a low internal consistency estimate. It is really unwise to apply such estimates. ⁴⁸

Another problem associated with criterion-referenced testing is the determination of criterion for mastery.

The conceptual model of criterion-referenced measurement rests upon the premise that this method of evaluation will provide valid evidence regarding a student's learning of relevant skills or concepts. Complete operational definition of such mastery, therefore, depends upon the establishment of an absolute performance standard against which the adequacy of each student's learning may be weighed and judged.

In the absence of any concrete information regarding student entering behavior, or the hierarchy of probable responses, raw intuition may be the only available guide to an initial selection of the criterion value.

Until a systematic set of rules applicable to a broad spectrum of curricula is developed, the process of criterion selection will require teacher insight and judgment. ⁴⁹

Airasian and Madaus say:

It is in the area of setting standards, be they for individual objectives or sets of objectives, that criterion-referenced measurement is most in need of research. Thus far, most standards have been arrived at by arbitrary decisions on the part of teachers and researchers. There is evidence that standards set in the area of 80 to 90 percent proficiency are most realistic and meaningful. ⁵⁰

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Popham, Criterion Measurement, pp. 26-28.

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Kibler, Behavioral Objectives and Instruction, p. 131.

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Airasian and Madaus, Measurement in Education, May, 1972, p. 2.

Alkin writes:

Despite the great appeal of the mastery concept, however, several problems remain unresolved. Most important, present psychometrics and theories of mastery learning have not provided a means of establishing an educationally useful definition of mastery. Arbitrary performance standards such as 85 percent correct responses are common, but rarely is there any satisfactory criterion for establishing a mastery standard. Even Bloom, who ardently supports teaching to mastery, conceded that, "While we would recommend the use of absolute standards carefully worked out for a subject, we recognize the difficulty of arriving at such standards and in the absence of absolute criteria recommend standards based on previous experience."⁵¹

Central to the problem associated with defining mastery, that is defining the level of attainment, is the problem of deciding the number of items necessary to test a particular objective.

Skager states:

However mastery itself is defined, the question remains, how many items should be included on the test so as to assure within certain limits that the learner (or learners) would obtain the same score on another sample of items from the same pool?

If the test incorporates production type items, where guessing is an improbable or even impossible basis for a correct response, fewer items are required. Yet if one looks at the literature which has begun to accumulate around the topic, it is quite apparent that the model of the traditional multiple-choice test item is the only one being considered. This seems odd, since a valid analysis of virtually any major school content domain will produce many performance objectives which require the learner to generate a response rather than to

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Marvin C. Alkin, "Criterion-Referenced Measurement and Other Such Terms", Problems in Criterion-Referenced Measurement, CSE Monograph Series in Evaluation, No. 3, Los Angeles, 1974, pp. 10-11.

select one from among a set of alternatives.

Popham states the problems associated with criterion-referenced measurement at the present time:

A considerable amount of attention has recently been given to the properties of criterion-referenced measures in contrast to more traditional norm-referenced approaches. This attention has extended beyond the ethereal realms of the psychometric journals, even penetrating the day-to-day decision making world of public school personnel. But while the number of textbooks and expository articles regarding norm-referenced testing could be stacked in a fairly respectable pile (size not quality), there are few guides available to the constructor of criterion-referenced tests. In part, this deficiency exists because few measurement specialists have yet directed their efforts toward writing practitioners' handbooks for criterion-referenced test construction. Beyond that, however, we currently don't have a collection of handy maxims for such test construction. While well-honed notions such as discrimination indices and internal consistency estimates abound in the norm-referenced arena, few such procedures are now available to the person who must generate and refine criterion-referenced measures. 53

In the report commissioned jointly by the MEA and NEA, House, Rivers and Stufflebeam devoted a large section to the Michigan Assessment Program. House, et al, write:

The objectives-referenced tests have admirable reliability. That is, KR-20 and point bi-serial correlations are acceptable for most objectives and items. In other words, the five items used to measure each objective seem to be measuring the same thing and in a consistent manner.

What the items are measuring is the question

of validity. This is a problematic area as far as these tests are concerned. While there is reasonable fit between the items and the objectives, the test can only be as good as the objectives themselves. Unfortunately, it appears as if the test developers did not establish the validity of the objectives before putting the tests into use.

Of equal cause for concern is the assumption inherent in the statewide approach to assessment that the same test instrument form can be used to assess learning for all of the fourth and seventh grade children in the state.⁵⁴

Criticism of the Michigan Assessment Program does not center around the change from norm-referenced to criterion-referenced testing or the technical and philosophical problems associated with such testing, but rather upon the objectives that are, in fact, being tested.

Rudman says:

While the format for reporting results is more useful, the objectives themselves are open to question.

. . . the objectives chosen for grades four and seven do not reflect a realistic expectation of what all children should know at these grade levels.

The attainment of the objective was not poor; the objective was unrealistic. If accountability is to be levied against teachers and administrators who staff the public schools of Michigan, we ought to recognize that nonattainment of these objectives is due more to poor placement of instructional objectives than it is poor teaching of them.⁵⁵

The Michigan Department of Education defends their selection of objectives for assessment purposes. The Department states, "Thirteen panels . . . were involved in the review of the draft performance objec-

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House, Rivers and Stufflebeam, Phi Delta Kappan, June, 1974, p. 666

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Rudman, Michigan Elementary Principal, April, 1974, pp. 11-12.

tives after preparation by various referent groups. Additionally, hundreds, if not thousands, of educators reacted to the draft objectives before the State Board of Education approved them."⁵⁶

The Michigan Department of Education also states:

From the beginning of the Michigan Department of Education's program to develop student performance objectives in the various subject areas, the intent has always been to develop these objectives as "minimal student expectancies."

. . . a minimal student performance objective is taken to be one that describes an essential skill, knowledge or understanding which is commonly taught at, or below, a specified instructional level and which should be mastered by nearly all regular pupils when taught by means of presently-known techniques. This definition emphasizes that minimal performance objectives deal with essential learnings, with the present state of the teaching art, and with the possibility of near universal mastery. It further attempts to avoid dictating what the total curriculum should be in any given school district.

The question arises, then, "How do we know that what has been defined as minimal in these various areas and at these various instructional levels are indeed 'minimal'?" The answer to this question is that although many people who have had extensive experience in these areas have been called upon to provide their opinion as to what constitutes minimal skills, no one at this time can be certain of the minimal nature of these objectives until they have been applied to instruction in actual field situations."⁵⁷

In addition to collecting performance data on Michigan fourth and seventh grade students, the Michigan Assessment Program has included

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Michigan Department of Education, An Assessment of the Michigan Accountability Systems, Lansing, Michigan, May, 1974, p. 14.

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Michigan Department of Education, An Assessment of Michigan Accountability, May, 1974, p. 14.

data collection on fourteen other variables which may be correlated with achievement results.

Past research has indicated that certain characteristics of students' background (i.e., their relative socio-economic status, attitudes, and aspirations) and the qualities of the instructional staff are related to achievement. In addition, available information has shown that the amount of financial resources spent by a district bears a relationship to achievement levels because schools with more financial resources are generally able to provide a greater variety of instructional programs and support for the teaching staff.

These conclusions have been derived from studies of large samples of school districts and schools. It must not be assumed, however, that the relationships among achievement and other variables would be apparent in the reports of all individual districts and schools. Moreover, causal relationships have not yet been substantiated by the previous research or by the Michigan Educational Assessment Program data. While causality may actually exist, the present data are not sufficient to demonstrate it.⁵⁸

The question, "What factors are related to student performance in schools?", has been of interest to researchers for a number of years. Much of this research has been conceptualized as an input-process-output-model.

Specifically, this model has:

(1) identified a criterion of school performance as a dependent variable, and measures thought to influence performance as independent variables; (2) operationally measured these variables in a sample of educational systems; (3) computed relationships between independent and dependent variables; and (4) drawn inferences from the relationships as to what factors, either singly or in combination,

account for variation in school performance.

There have been several large scale studies which have attempted to identify the correlates of school performance using the input-process-output-model. Studies in the Institute of Administrative Research begun in the 1940's produced over two hundred doctoral dissertations, several books and a number of monographs. Project Talent operated by the American Institute for Research is aimed at studying "American high schools in all of their diversity," and involves 400,000 high school students from a representative sample of 1,353 of the nation's high schools.

The California Study conducted by Benson for a California Senate committee related thirty-four school and non-school variables to educational achievement.⁶⁰ Burkhead, Fox and Holland examined high school student performance and its correlates in Chicago and Atlanta.⁶¹ Possibly one of the best known and more controversial research reports was written by Coleman, Equality of Educational Opportunity for the U. S. Office of Education.⁶²

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Michigan Department of Education, The Correlates of School Performance, 1970, Lansing, Michigan, p. 1.

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Charles S. Benson, State and Local Fiscal Relationships in Public Education in California, Sacramento: Senate of the State of California, 1965, pp. 41-42.

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Jesse Burkhead, Thomas G. Fox and John W. Holland, Input and Output in Large City Schools, Syracuse University Press, 1967, Syracuse, p.

62

James S. Coleman, and others, Equality of Educational Opportunity, Washington, D. C., U. S. Government Printing Office, No. FSS. 238:-38001, 1966.

Wilbur points out several problems inherent in the studies of the correlates of school performance.

Perhaps the fundamental problem facing those searching for the correlates of school performance is that of adequately defining the term. The problem of definition, in short, is one of settling on what our educational processes should consist of or be a product of -- on this matter we have not yet reached accord.

A second, related problem facing those who would infer the causes of school performance is that of adequately defining and measuring its correlates.

A third, and equally formidable problem, is that of statistically associating the variables in a meaningful manner. There are too many variables affecting school performance for researchers to experimentally control and manipulate them all at once.⁶³

Because of the problems pointed out by Wilbur and because of the voluminous nature of the research on the correlates of school performance, the objectives of this study will best be served by reviewing those studies that most closely relate to the problem.

The extent of empirical research treating behavioral objectives as a variable correlated with student achievement is negligible in terms of the increasing number of proponents favoring the use of behavioral objectives for classroom instruction.

Loh investigated the effects of presenting behavioral objectives to high school students in first year algebra classes. It was concluded that the results of the study did not support the use of behavioral

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Michigan Department of Education, The Correlates of School Performance, Lansing, Michigan, 1970, pp. 13-15.

objectives as a procedure for improving measures of learning.⁶⁴

Thornberg investigated the effects of instructional objectives on 178 male Air Force trainees. Prior knowledge of the objectives was not shown to increase overall performance on subject matter.⁶⁵

Drennen investigated the effects of specific performance objectives on student achievement in remedial mathematics at the junior college level. Drennen reports there were no statistically significant differences among groups on the achievement gain score.⁶⁶

Oswald studied the use of objectives on achievement related to social studies knowledge and comprehension with 619 eleventh grade students in California and Maryland schools. He discovered that making instructional objectives explicit has not been demonstrated to stimulate a significantly different test response than would occur without explicit objectives.⁶⁷

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Elmwood Lockert Loh, "The Effect of Behavioral Objectives on Measures of Learning and Forgetting on High School Algebra," (unpublished Ph.D. dissertation, University of Maryland, 1972).

65

Sylvia Dubbe Thornburg, "An Investigation of the Effects of Instructional Objectives", (unpublished Ph.D. Dissertation, University of Illinois, 1971).

66

Robert Lee Drennen, "The Effect of Specific Performance Objectives on Student Achievement Attitude and Attrition in Remedial Mathematics at Jefferson State Junior College", (unpublished Ed.D. dissertation, Auburn University, 1971).

67

James Marlin Oswald, "Instructor Specified Instructional Objectives and Achievement of Social Studies Knowledge and Comprehension", (unpublished Ed.D. dissertation, Stanford University, 1970).

Cardarelli investigated the effect on pupil achievement when teachers are assigned and trained in the use of behavioral objectives. Cardarelli's study involved 32 fifth grade teachers in three school districts in central New York State. No significant differences were found in achievement scores for students who received instruction from teachers using predetermined behavioral objectives.

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In a series of interviews with teachers, Nerbovig tried to determine teachers' perceptions of the functions of objectives. Nerbovig found that experienced teachers who taught the intermediate grades were more apt to use objectives for planning instructional units. Teachers most clearly saw evaluation as the major function to be performed by objectives.

Kalish investigated the effects in achievement of using behavioral objectives with fifth grade students in map and globe skills. No significant differences were found between those students receiving behavioral objectives prior to instruction and those that did not receive the objectives.

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Aldo Francis Cardarelli, "An Investigation of the Effect on Pupil Achievement When Teachers Are Assigned and Trained in the Use of Behavioral Objectives", (unpublished Ph.D. dissertation, Syracuse University, 1971).

69

Marcella Hannah Nerbovig, "Teachers: Perceptions of the Functions of Objectives", (unpublished Ph.D. dissertation, The University of Wisconsin, 1956).

70

Daniel Miles Kalish, "The Effects on Achievement of Using Behavioral Objectives with Fifth Grade Students", (unpublished Ph.D. dissertation, Ohio State University, 1972).

Baker investigated the effects on student achievement of behavioral and non-behavioral objectives for high school students in social studies classes. Students were tested on twenty-three objectives. Results yielded no significant differences. In addition, Baker asked teachers to select those test items which they felt would be most appropriate for measuring the objectives. It was believed that a teacher who carefully understood the objectives should be able to match 75 percent of the items with their proper objectives. It was found that most teachers' responses were at approximately chance levels.⁷¹

Bryant's study was conducted to determine the effects of expressing performance objectives on the achievement level of low achieving eighth grade science pupils in four predominantly black inner city schools in Cincinnati. Bryant failed to find any significant difference in the achievement levels between those groups receiving performance objectives and those groups that did not receive objectives.⁷²

In a study by Webb, using four eighth grade classrooms to determine the effects of behavioral objectives, he concluded:

. . . the use of behavioral objectives and criterion evaluation had a positive effect on the classroom progress of adolescents. It was found that with adequate training, teachers were

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Eva L. Baker, "Effects on Student Achievement of Behavioral and Nonbehavioral Objectives", (unpublished Ph.D. dissertation, University of California, 1969).

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Napoleon Bryant, Jr., "The Effects of Performance Objectives on the Achievement Level of Selected Eighth Grade Science Pupils in Four Predominantly Black Inner City Schools", (unpublished Ed.D. dissertation, Indiana University, 1970).

able to modify their instructional techniques so that learners reaped greater benefit from the instructional process than they generally do in conventional settings.⁷³

Clingman studied the impact of teacher and student knowledge of educational objectives on student learning. Clingman's sample consisted of twenty-two classrooms of adults enrolled to study general principals of insurance. Clingman concluded:

There were significant effects on pupils achievement attributable to the training of the teacher and to differences in individual teachers. Pupils taught by teachers trained in the use and development of performance objectives performed better on the criterion measure, and the achievement level a pupil attains may be greatly influenced by the pedagogical techniques the teacher uses during instruction.

Providing pupils with objectives improved their understanding of what was expected of them and their ability to work independently and/or in small groups.

Teachers who used performance objectives were more aware of spontaneous developments that occurred in the classroom and exhibited greater confidence in their ability to design effective instructional programs and materials.⁷⁴

Puckett studied the use of behavioral objectives in the State Technical Institute at Memphis. Puckett found that students scored significantly better on exams when they were enrolled in courses that

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Alfred Bert Webb, "Effect of the Use of Behavioral Objectives and Criterion Evaluation on Classroom Progress of Adolescents", (unpublished Ed.D. dissertation, the University of Tennessee, 1971).

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Evan Earl Clingman, "The Impact of Teacher and Student Knowledge of Educational Objectives on Student Learning and Satisfaction", (unpublished Ph.D. dissertation, The University of Wisconsin, 1972).

were based on specifically stated behavioral objectives.⁷⁵

In a review of several studies conducted between 1960 and 1972, Duchastel and Merrill indicate some of the difficulties with the research presently available. They state:

A difficulty involved in research on objectives lies in the nature of the objectives themselves. A set of behavioral objectives has many dimensions which should be taken into account in designing research and reporting results. Of special importance is the dimension of specificity which may not necessarily concur with the dimension which categorized objectives as behavioral or non-behavioral. Future research should seek to clarify these dimensions through explicit operational definitions.⁷⁶

Jenkins and Denoy conducted a study to determine what affects type and knowledge of the objectives of instruction have on learning. The results reported for this study do not support the proposition that type and knowledge of the objectives of instruction facilitate learning. In a discussion of their study results, Jenkins and Denoy raise several possibilities which may account for their findings. They state:

The possibility remains, however, that type and knowledge of objectives were insignificant variables because they received inadequate attention from both the teachers and the students. Since teachers and students rarely are exposed to the explicit objectives of instruction they might fail to use these objectives appropriately either because their value is not recognized or because one must learn how to use explicit objectives.

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Terry James Puckett, "Implementing and Assessing Instruction via Instructional Systems and Behavioral Objectives", (unpublished Ph.D. dissertation, Ohio State University, 1971).

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Philippe C. Duchastel and P. F. Merrill, "Behavioral Objectives and Learning: A Review of the Literature", Review of Educational Research, Vol. 43, No. 1, June, 1972.

Perhaps a stronger test of the benefits potentially derivable from explicit objectives could be obtained if students or teachers received some incentive to use the objectives, or were given practice in their use.

At least one other possibility exists for why knowledge and type of objective failed to emerge as significant variables. When a unit is well structured, that is, designed to facilitate the attainment of particular objectives, explicitly stated objectives may be superfluous in that teachers and students are able to "read through" the materials to the objectives. If this is the case specific objectives will influence learning only indirectly through their influence on the design of the curricular materials.

An additional conclusion suggested by the data is that the argument which suggests that explicitly stating behavioral objectives produces improvement in learning is a difficult argument to support empirically.⁷⁷

Summary

1. Behavioral or instructional objectives are receiving increasing emphasis as a basis for specifying educational outcomes.
2. The behavioral objectives movement has met with some criticism because the process is viewed as reducing education to miniscule segments.
3. If classroom teachers do not value objectives, then it is unlikely that they will receive much emphasis in the instructional process and, therefore, will have minimal impact on student achievement.

4. The Michigan Educational Assessment Program is based on the assessment of "minimal" performance objectives.

5. What constitutes a "minimal" objective is a source of controversy. The Michigan Department of Education maintains that the objectives selected for assessment are, in fact, "minimal." Other groups in Michigan, specifically the Michigan Education Association, do not agree that the objectives assessed are "minimal."

6. Criterion-referenced measurement is replacing norm-referenced measurement as a method in assessing instructional objectives.

7. Traditional psychometric principles applied to norm-referenced measurement may not necessarily apply to criterion-referenced measurement. Specifically, the problems relate to:

- a. validity
- b. reliability
- c. definitions of acceptable criteria
- d. the number of items needed to accurately measure an objective

8. Research on the effects of behavioral objectives on achievement are inconclusive because:

- a. teachers do not necessarily view instructional objectives as important.
- b. teachers are not given an incentive to use objectives.
- c. empirical evidence supporting the use of objectives is not available in sufficient quality or quantity.

CHAPTER III

DESIGN OF THE STUDY

The sample for this study was selected from the population of all primary teachers in Oakland County, Michigan. For the purposes of this study primary teachers are defined as: classroom teachers of students in grades one, two or three. Oakland County encompasses twenty eight school districts which have enrollments which range from 2,484 students to 23,014 students. The largest district employs 217 primary teachers; the smallest district employs 20 primary teachers. Per pupil expenditures range from a high of \$1,799.99 to a low of \$848.45.¹

The county includes districts in each of the five classifications of school districts used by the Michigan Department of Education in reporting district achievement scores.

Table 3.1 shows the number of school districts within the five classifications.

¹
Oakland Schools, Summaries and Surveys 1974-1975, January, 1975, pp. 1-15.

TABLE 3.1

School District Classifications in Oakland County, Michigan *

Classification	Number of Districts
Metro-Core	1
City	1
Towns	8
Urban Fringe	16
Rural	2
TOTAL	28

*

Chapter 1, Definition of Terms, pp. 7-9.

Sample Selection

All twenty eight school districts in Oakland County were stratified into one of the five classifications of school districts. The sampling frame was developed by listing all districts and all elementary buildings within the district and the classification strata. The number of primary teachers in each building was also listed. A ten percent sample from each strata was determined to be sufficiently large enough to make inferences about the population of interest. Classification V was sampled beyond the ten percent level to acquire an N beyond 30. This was necessary for testing Hypothesis IV.²

Elementary buildings were randomly selected from each stratum to produce the number of primary teachers necessary for sampling at the ten percent level. All primary teachers within a selected building were sampled.

A total of 296 primary teacher respondents from 42 buildings representing 21 school districts made up the sample for this study. Table 3.2 displays the number of buildings and teacher responses from the five classifications and tables 3.3 through 3.6 show summary characteristics of the sample.

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John T. Roscoe, Fundamental Research Statistics, New York: Holt, Rinehart and Winston, Inc., 1969, pp. 155-157.

TABLE 3.2
Number of Responses

District Classification	Buildings	Teachers
I	4	50
II	6	36
III	8	57
IV	20	112
V	4	41
TOTAL	42	296*

TABLE 3.3
Summary Characteristics: Degree Level
10% Sample

Degree Level	Number
B.A.	72
B.A. + 15 hrs.	73
M.A.	55
M.A. + 15 hrs.	4
TOTAL	204

TABLE 3.4
Summary Characteristics: Years of Teaching Experience
10% Sample

Years of Teaching Experience	Number
0-5	55
6-10	73
11-15	37
15-above	39
TOTAL	204

* Classification V was sampled beyond the ten percent level to acquire an $N \geq 30$.

TABLE 3.5

Summary Characteristics: Grade Level Taught
10% Sample

Grade Level	Number
1	71
2	68
3	65
TOTAL	204

TABLE 3.6

Summary Characteristics: Sex of Teacher
10% Sample

Sex	Number
Male	8
Female	196
TOTAL	204

Interviewing Procedure

The principals of the selected elementary buildings were contacted by telephone. The interviewer explained the objectives of the study and solicited the building principal's assistance in establishing a convenient meeting time for teachers within the building. The interviewer was successful in obtaining the principal's assistance in all but two cases. Two additional buildings were randomly selected and the cooperation of the building principal was obtained in both of these cases.

Between February 3, 1975 and April 25, 1975 the interviewer traveled to each of the forty two buildings and interviewed teachers during the established meeting time. Interviews were conducted before and after regular classroom time and on some occasions during the teacher's lunch hour.

The interviews were conducted in a group setting, but each respondent was instructed to complete the survey form independently. The interviewer was present during the time the surveys were being completed to assure that independent responses were in fact occurring. The interviewer was also available to answer clarifying questions about the instrument; the interviewer did not answer questions which might influence the responses of the subjects.

Complete data were received from one hundred percent of the respondents in each of the forty two buildings, twenty one school districts, and five stratum classifications.

Measures

Two measuring instruments were used in this study;

- (1) The survey instrument, Primary Teacher's Ratings of the Michigan Educational Assessment Program Reading Objectives: Grade Four, (2) The Michigan Educational Assessment Program 1973-1974 Grade Four Reading Objectives Test.

Survey Instrument

The survey instrument was constructed on the basis of similar instruments used for the validation or rating of instructional objectives by French³ and Baker⁴.

Reliability estimates conducted on the survey instrument used in this study produced a corrected odd-even reliability coefficient of .94. This correlation indicated that the respondents were consistent in their rating of the objectives.

³ Will French, Behavioral Goals of General Education in High School, New York: Russell Sage Foundation, 1957, p. 218.

⁴ Eva L. Baker, "Parents, Teachers, and Students as Data Sources for the Selection of Instructional Goals", American Educational Research Journal, Vol. IX, No. 3, Summer, 1972, p. 407.

MEAP Grade Four Objective Referenced Reading Test

Each objective tested in the Michigan Educational Assessment Program is considered to be a "test" of five questions, and the reliability is calculated by the Kuder-Richardson "formula 20". The coefficients reported for the 1973-1974 fourth grade reading objectives range from a low of .51 to a high of .88.

Design

The design for this study is pre-experimental and descriptive⁵ in nature.

Testable Hypotheses

Hypothesis I

Null hypothesis: classroom teachers agree that the Michigan Educational Assessment Program reading objectives (Grade 4) are minimal.

$$H_0: P \geq .8$$

Legend: P = the proportion of the Ss rating an objective five (5).

Alternate hypothesis: classroom teachers do not agree that the Michigan Educational Assessment Program reading objectives (Grade 4) are minimal.

$$H_1: P < .8$$

⁵ Donald T. Campbell and Julian C. Stanley, Experimental and Quasi-Experimental Designs for Research, Chicago: Rand McNally and Company, 1966, pp. 6-7.

Hypothesis II

Null hypothesis: There is no difference between selected characteristics of classroom teachers and the ratings teachers give to the minimal reading objective.

$$H_o: a_1 = a_2 = a_3 = a_4 = a_5 = 0$$

Legend: a_1 = stratum classification

a_2 = sex of the teachers

a_3 = grade level - teaching assignment

a_4 = years of teaching experience

a_5 = degree level

Alternate hypothesis: There is a difference between selected characteristics of classroom teachers and the ratings teachers give to the minimal reading objectives.

$$H_1: H_o: \text{is false.}$$

Hypothesis III

Null hypothesis: There is no relationship between student achievement and the rating teachers give to the minimal reading objectives.

$$H_o: r = 0$$

Alternate hypothesis: There is a positive relationship between student achievement and the rating teachers give to the minimal reading objectives.

$$H_1: r > 0$$

Alternate hypothesis: There is a negative relationship between student achievement and the rating teachers give to the minimal reading objectives.

$$H_2: r < 0$$

Hypothesis IV

Null hypothesis: The proportion of teachers rating the objectives as minimal will not vary among the five classifications of school districts.

$$H_0: P_1 = P_2 = P_3 = P_4 = P_5 = 0$$

Legend: P = proportion of the S's in a classification rating an objective five (5).

Alternative hypothesis: The proportion of teachers rating the objectives as minimal will vary among the five classifications of school districts.

$$H_1: P_1 \neq P_2 \neq P_3 \neq P_4 \neq P_5 \neq 0$$

Analysis

Hypothesis I: A rating of five (5) on an objective will meet the criterion of minimal. The rating of five (5) indicates that the objective is considered as a very important, critical or essential skill and best meets the definition of a minimal objective established by the Michigan Department of Education. An 80 percent criterion of acceptance by classroom teachers will represent consensus that the objectives are in fact minimal.

Hypothesis II: A one way analysis of variance will be used to determine the affect of the variables; classification, grade level taught, degree level, years of teaching experience and sex of the teachers, on the ratings teachers give to the objectives.

Hypothesis III: The Pearson-product moment correlational technique will be used to determine the correlation between teacher's rating of the objectives and student achievement.

Hypothesis IV: A one way analysis of variance will be used to determine what difference exists on the ratings teachers give to the objectives among the five classifications of school districts.

SUMMARY

Teachers ratings of the minimal readings objectives Grade 4 of the Michigan Educational Assessment Program, (MEAP) were collected from 296 primary teachers from 42 elementary buildings in 21 school districts in Oakland County, Michigan. The districts were stratified into five classifications by type based on the reporting format used in the Michigan Educational Assessment Program.

One hundred percent of the sample responded to the survey instrument which was designed to measure teacher ratings of the minimal reading objectives tested in grade 4 through the MEAP.

Eighty percent of the teachers rating an objective as five (5) meets the criteria of acceptance of a minimal objective. A one way analysis of variance will be used to determine what affects the variables of; classification, sex, degree level, years of teaching experience, and grade level taught have on the ratings teachers give to the reading objectives.

Pearson-product moment correlations will be secured to ascertain the relationship between teacher's ratings of the reading objectives and student achievement.

CHAPTER IV

ANALYSIS OF THE DATA

The data collected and analyzed by the procedures described in Chapter III are presented in this chapter. Each hypothesis is stated followed by a statement specifying the level of significance and data pertaining to the hypothesis.

Hypothesis I

Hypothesis Tested: Classroom teachers agree that the Michigan Educational Assessment Program reading objectives (grade 4) are minimal.

$$H_0: P \geq .8$$

A rating of five on an objective will meet the criteria of minimal. Eighty percent acceptance will meet the criteria of consensus. A five percent level of significance has been chosen as the basis for rejecting or not rejecting Hypothesis I. Table 4.1 shows the distribution of teachers' ratings on each of the nineteen objectives.

The proportion of teachers rating an objective a five is significantly less than eighty percent; thus, Hypothesis I is rejected.

Hypothesis II

Hypothesis Tested: There is no difference between selected characteristics of classroom teachers and the ratings teachers give to the minimal reading objectives.

$$H_0: a_1 = a_2 = a_3 = a_4 = a_5 = 0$$

TABLE 4.1

Teachers' Rating of the Reading Objectives (Grade 4)

Objectives	Rating Scale				
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>
	Percentage Distribution				
1	1.5	2.0	24.5	38.7	33.3
2	1.0	3.9	27.9	36.8	30.4
3	5.4	14.2	35.3	27.9	17.2
4	3.4	7.4	29.9	40.7	18.6
5	2.5	4.9	20.1	41.7	30.9
6	1.0	5.4	28.9	36.3	28.4
7	1.5	8.3	29.4	35.3	25.5
8	9.3	21.6	36.8	22.1	10.3
9	2.9	8.3	30.4	36.3	22.1
10	1.0	4.9	24.0	40.7	29.4
11	1.5	3.9	17.2	41.2	36.3
12	4.4	14.7	29.9	34.8	16.2
13	2.5	2.5	30.4	41.2	23.5
14	2.9	20.6	34.3	32.8	9.3
15	2.9	12.3	39.7	30.9	14.2
16	0.5	7.4	25.0	41.7	25.5
17	4.9	16.7	36.3	27.5	14.7
18	8.8	20.6	37.7	27.0	5.9
19	4.9	10.3	41.7	26.0	17.2

A five percent level of significance has been selected to not reject or reject Hypothesis II relative to the variables of: classification, sex, grade level, years of experience and degree level. Tables 4.2 through 4.6 present an analysis of variance for each of the variables in Hypothesis II.

TABLE 4.2
Analysis of Variance: District Classification

Source	D.F.	Sum of Squares	Mean Squares	F Ratio
Between Groups	4	3,406.7500	851.6875	7.403
Within Groups	199	22,895.5000	115.0527	
TOTAL	203	26,302.2500		

TABLE 4.3
Analysis of Variance: Sex

Source	D.F.	Sum of Squares	Mean Squares	F Ratio
Between Groups	1	337.6250	337.6350	2.627
Within Groups	202	25,964.6250	128.5377	
TOTAL	203	26,302.2500		

TABLE 4.4
Analysis of Variance: Grade Level

Source	D.F.	Sum of Squares	Mean Squares	F. Ratio
Between Groups	2	124.7500	62.3750	1.479
Within Groups	201	26,177.5000	130.2363	
TOTAL	203	26,302.2500		

TABLE 4.5
Analysis of Variance: Years of Experience

Source	D.F.	Sum of Squares	Mean Squares	F. Ratio
Between Groups	3	994.5000	331.5000	2.620
Within Groups	200	25,307.7500	126.5387	
TOTAL	203	26,302.2500		

TABLE 4.6
Analysis of Variance: Degree Level

Source	D.F.	Sum of Squares	Mean Squares	F. Ratio
Between Groups	3	493.0625	164.3542	1.274
Within Groups	200	25,809.1875	129.0459	
TOTAL	203	26,302.2500		

Significant F ratios of 7.403 and 2.620 on the variables of school district classification and years of experience result in a rejection of Hypothesis II.

Post hoc pair-wise comparisons were made to determine the location

of the differences between groups on the variables of classification and years of experience.

TABLE 4.7

Means and Standard Deviations of the Five Classifications

Classification	Number	Mean	Standard Deviation
Metro-core	21	70.43	9.64
City	15	73.07	10.67
Towns	50	61.60	13.10
Urban Fringe	109	70.92	9.96
Rural	9	68.11	6.27
TOTAL	204		

There is a difference on the rating of objectives between the classifications of metro-core and towns, city and towns, towns and urban fringe.

TABLE 4.8

Scheffe' Pair-wise Comparisons: Classification*

Classification	F Ratio
Metro-core and City	.1325
Metro-core and Towns	2.5055
Metro-core and Urban Fringe	.0091
Metro-core and Rural	.0736
City and Towns	3.2985
City and Urban Fringe	.1324
City and Rural	.3007
Towns and Urban Fringe	6.4697
Towns and Rural	.7023
Urban Fringe and Rural	.1426

*John T. Roscoe, Fundamental Research Statistics, New York, Holt, Rinehart and Winston, Inc., 1969, pp. 239-241

Tables 4.9 and 4.10 present the pair-wise comparisons on the variable, years of experience.

TABLE 4.9

Means and Standard Deviations for Years of Experience

Years of Experience	Number	Mean	Std. Dev.
0 - 5	55	68.36	11.17
6 - 10	73	66.12	11.45
11 - 15	37	70.54	11.76
15 - above	39	71.82	10.44
TOTAL	204		

TABLE 4.10

Scheffe' Pair-wise Comparisons: Years of Experience

Years of Experience	F Ratio
0 - 5 and 6 - 10	.4145
0 - 5 and 11 - 15	.2769
0 - 5 and 15 - above	.7196
6 - 10 and 11 - 15	1.2637
6 - 10 and 15 - above	2.1755
11 - 15 and 15 - above	.0819

Inequalities among the pair-wise comparison is indeterminate using the Scheffe' technique.

Hypothesis III

Hypothesis Tested: There is no relationship between student achievement and the rating teachers give to the minimal objectives.

$$H_0: r = 0$$

The degree of freedom used in determining the significance of the product-moment correlations for Hypothesis III is 40 (N-2). At the five percent level of significance, a correlation larger than .304 is necessary to reject the hypothesis. Table 4.11 shows the correlation coefficients for each of the nineteen reading objectives.

Calculated correlation coefficients for the nineteen reading objectives and the teachers' rating of the objectives result in a failure to reject Hypothesis III.

Hypothesis IV

Hypothesis Tested: The proportion of teachers rating the objectives as minimal will not vary among the five classifications of school districts.

$$H_0: P_1 = P_2 = P_3 = P_4 = P_5 = 0$$

A five percent level of significance has been chosen to not reject or reject Hypothesis IV. Table 4.12 presents the analysis of variance among and between the five school district classifications.

TABLE 4.11
Correlation Coefficients for the Reading Objectives

Objectives	Mean Rating	Achievement	r
1	4.04	71.14	.409
2	3.94	75.64	.346
3	3.34	71.83	.229
4	3.62	88.38	.040
5	3.94	61.04	.026
6	3.86	81.35	.221
7	3.76	79.33	.170
8	3.10	71.00	.221
9	3.68	61.00	.146
10	3.96	59.59	.306
11	4.07	45.97	.302
12	3.47	52.45	.123
13	3.80	72.28	.243
14	3.32	64.54	.185
15	3.53	70.23	.250
16	3.88	59.57	.196
17	3.37	61.40	-.015
18	3.04	78.38	-.098
19	3.44	59.80	.097

TABLE 4.12

Analysis of Variance: Classification

Source	D.F.	Sum of Squares	Mean Squares	F Ratio
Between Groups	4	314.3437	78.5859	5.677
Within Groups	291	4,028.2500	13.8428	
TOTAL	295			

A significant F ratio of 5.677 results in the rejection of Hypothesis IV. All pair-wise comparisons were made to determine the location of the difference between the classifications. Table 4.13 shows the means and standard deviations of the five classifications and Table 4.14 presents all pair-wise comparisons.

TABLE 4.13

Means and Standard Deviations of the Five Classifications

Classification	Number	Mean	Standard Deviation
Metro-core	50	3.78	3.75
City	36	5.83	4.49
Towns	57	2.44	3.05
Urban Fringe	113	4.49	4.06
Rural	40	3.20	2.60
TOTAL	296		

TABLE 4.14

Scheffe' Pair-wise Comparisons: Classification*

Classification	F Ratio
Metro-core and City	.2798
Metro-core and Towns	.1521
Metro-core and Urban Fringe	.0555
Metro-core and Rural	.0237
City and Towns	.8066
City and Urban Fringe	.1559
City and Rural	.4169
Towns and Urban Fringe	.4820
Towns and Rural	.0431
Urban Fringe and Rural	.1468

*Roscoe, Fundamental Research Statistics, 1969

Inequalities among the pair-wise comparisons is indeterminate using the Scheffe' technique.

DISCUSSION

None of the nineteen reading objectives defined as 'minimal' by the Michigan Department of Education were rated as 'minimal', according to the criteria established for this study.

The variables of classification and years of experience affect the rating of objectives. Primary teachers in schools classified as Towns had a lower mean rating on the objectives than the other four classifications. The conservative nature of the Scheffe' test statistic used to determine differences between groups on the variable of years of experience did not produce significant F ratios.

Correlation coefficients calculated on the nineteen reading objectives resulted in positive correlations between the teachers' rating and student achievement on objectives 1, 2 and 10.

Negative, but not significant, correlations were calculated for objectives 17 and 19. Reading objectives 1 and 2 are similar in that students must be able to recognize meanings of words and phrases. Reading objective 10 uses pictures to depict the main idea of a given reading passage. Reading objectives 17 and 18 both emphasize the ability to locate sources of information.

Differences on the rating of objectives did exist between the five classifications of school districts. The mean rating of objectives was always lowest for those teachers classified in districts located in Towns. Those districts classified as Rural also had low mean ratings.

The distinction made between these two classifications is based on population classifications used by the United States Census Bureau

and adopted by the Michigan Department of Education for reporting student achievement in 1972. Therefore, those districts classified as Towns and Rural may be similar if other variables beyond population are considered.

SUMMARY

Primary teachers do not consider the reading objectives tested in the Michigan Educational Assessment Program (grade 4) to be "minimal" reading objectives.

The variables of school district classification and years of experience do affect the rating teachers give to the reading objectives.

There is no statistically significant relationship between teachers' ratings of the reading objectives and student achievement.

CHAPTER V

SUMMARY AND CONCLUSIONS

Summary

The Michigan Department of Education initiated a state-wide testing program in 1969 as one phase in a State Accountability Model. This testing program was designed to assess "minimal" objectives in the basic skills areas.

This study was undertaken to determine (1) to what degree teachers value the minimal reading skills of the Michigan Educational Assessment Program, and (2) the relationship between student achievement and teachers' ratings (value) placed on the reading objectives.

Two hundred ninety-six teachers, from twenty-one school districts, representing five district classifications participated in the study. Each of the 296 teachers responded to the Primary Teacher's Ratings of the Michigan Educational Assessment Program Reading Objectives: Grade Four by rating 19 "minimal" objectives on a 1 - 5 scale. Other variables studied included student achievement on the Michigan Educational Assessment Program Reading Objectives 1973-1974, teachers' sex, grade level, degree level, years of experience and school district classification.

Eighty percent of the teachers rating an objective as five (5) was established as the criteria for classifying an objective as minimal. Analysis of variance was used to determine what effects the variables of classification, sex, degree level, years of experience and grade level taught had on the ratings teachers gave to the reading objectives.

Pearson's product moment correlations were calculated to determine the relationship between teachers' ratings of the reading objectives and student achievement.

The four general hypotheses tested were:

1. Classroom teachers agree that the Michigan Educational Assessment Program reading objectives are minimal.
2. Selected characteristics of classroom teachers will have no affect on the value (rating) teachers give to the minimal reading objectives.
3. There is a relationship between student achievement on the Michigan Educational Assessment Program reading objectives and the value (rating) teachers place on the objectives.
4. The value (rating) teachers place on the objectives will vary among the five classifications of school districts represented in the total population.

Conclusions

1. Elementary teachers do not consider the Michigan Educational Assessment Program Reading Objectives to be minimal.
2. The type (classification) of school district and the years of teaching experience do effect the value (rating) teachers give to the reading objectives.
3. This study failed to find a statistically significant relationship between teachers' ratings of the reading objectives and student achievement.

4. The value (rating) teachers gave to the reading objectives did vary between the type (classification) of school district.

DISCUSSION

The reading objectives tested in the Michigan Educational Assessment Program are designed to assess skills acquired during the student's primary school years. The objectives selected for assessment may be considered as terminal skills, that is, they generally pertain to reading comprehension. Traditionally, much of the instruction that takes place during the early years of a student's schooling is considered as process oriented-acquiring skills leading to a terminal skill. Specifically, early reading instruction focuses on structural and phonetic analysis and not on reading instruction comprehension. Therefore, the validity or appropriateness of the minimal reading objectives continues to be questionable. Are the measures designed to test these objectives based on what students do know or what students should know? It appears that the Michigan Department of Education has determined what students should know and has continued to assess student knowledge on a set of objectives that reflect what the Department of Education believes to be important.

Instruction based on predetermined objectives implies that the objectives have been accepted by those responsible for instruction. An examination of primary school instructional practices reveals little emphasis on objectives specifically related to reading comprehension.

Elementary teachers in this study may consider the objectives to be important but not minimal in terms of their own instructional practices.

The findings of this study support Rudman's contention that the objectives are not minimal for the grade level assessed.

Michigan's assessment program has been a source of controversy since its beginning. The program is a component of the State Board of Education's Accountability Model. The whole concept of accountability has received increasing criticism especially by the Michigan Education Association.

The minimal objectives are therefore subjected to emotional reactions that are currently associated with the term "accountability." It may be impossible to get any kind of rational judgment about the validity of the objectives as long as they are associated with this term.

The objectives rated in this study may have been viewed as the "State's" objectives, consequently having less validity. If this is in fact the case, then the objectives were rated from a political perspective rather than from an educational perspective.

Teachers in districts classified as Towns and Rural rated the objectives at a lower level than did teachers in Metro-core, Cities or Urban Fringe districts. Districts classified as Towns and Rural generally have less financial resources which may result in fewer dollars allocated for inservice related to the whole objectives movement.

Small towns and rural districts are also less inclined to be innovative. The school system often reflects the conservative nature of the community, and there is a tendency to maintain the status quo. An awareness of instructional objectives and local district emphasis on developing objectives which reflect locally identified needs might create familiarity and support.

An additional question associated with the lower rating of the reading objectives might again be related to the influence of the MEA. Are small districts such as those classified as Towns and Rural more likely to support the position taken by the Michigan Education Association? The MEA has strongly opposed the Accountability Model established by the Department of Education. Districts classified as Towns and Rural may be more likely to accept the MEA position that accountability is being forced upon them by a large bureaucratic state agency.

A lack of acceptance by local school districts regarding the State's Accountability Model may also be attributable to the past implementation procedures of the Michigan Department of Education. The assessment component was the initial thrust of the Department and as a consequence the terms accountability and assessment became synonymous. The assessment program was well established by the Department of Education before a Model was even developed. Assessment procedures were in operation before the Common Goals and Minimal Objectives had been written. This is in direct opposition to the process defined in the Six Step Model. The Department has consequently been forced to try and correct associations and perceptions which were developed during the beginning years of the assessment program.

IMPLICATIONS

All of the objectives are considered to be "minimal" by the Michigan Department of Education. Variation on the ratings by the subjects in this study indicate interrespondent and intrarespondent differences relative to the value of these objectives. It is questionable whether all of the

objectives should be viewed as essentially equal in importance.

A failure to find a positive relationship between student achievement and teachers' rating on the objectives supports the research cited in this study. If classroom teachers do not value objectives, then it is unlikely that they will receive much emphasis in the instructional process and, therefore, will have minimal impact on student achievement.

Additional consideration on the importance of the reading objectives should be a high priority of the Michigan Department of Education. If the Department is going to continue to define the objectives as minimal, further teacher support must be collected and documented.

Additional objectives may have to be developed which would create a bank of objectives and assessment items. It would then be possible for local districts to select those objectives that are appropriate or reflect the values of the professional staff and local community. The Department may even have to modify their position that the present objectives are in fact minimal and that they transcend local districts boundaries.

If the local district can select objectives then they may become personalized and be viewed as "our" objectives rather than "their" objectives. It is highly probable the objectives selected by the local districts would be more alike than dissimilar.

This study was descriptive in nature and lacked some of the controls implicit in a true experimental design. Future research efforts could be directed toward investigating the relationship between students' achievement and the value teachers place on the objectives in a design which has both control and treatment groups. Future research should also try to determine why certain variables affect the rating (value) that teachers place on objectives.

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APPENDIX

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Primary Teacher's Ratings of the
Michigan Educational Assessment
Program Reading Objectives: Grade Four

Classification: I, II, III, IV, V.

Grade level: 1 2 3

or

Age group: (yrs.) 6 7 8

Degree level: B.A.____ B.A. +15____ M.A.____ M.A. +30____

Teaching experience: 0-5 yrs.____ 6-10 yrs.____ 11-15 yrs.____

15-above____

Sex: F____ M____

INSTRUCTIONS: Please rate the following Reading Objectives according to the values given in the rating scale below.

RATING SCALE:

5 = Very important, critical, or essential

4 = Above average importance

3 = Average importance

2 = Below average importance

1 = Unimportant, inappropriate, or irrelevant

RATING SCALE: 5 = Very Important, critical, or essential;
 4 = Above average importance; 3 = Average importance;
 2 = Below average importance; 1 = Unimportant, inappropriate,
 or irrelevant

MEAP READING OBJECTIVES Grade 4

Objective Number

	5	4	3	2	1
1. Given a reading selection at the third grade level, the learner will match a series of words in the selection with appropriate definitions					
2. Given a set of phrases, the student will indicate those phrases which have the same meaning.					
3. Given a reading selection at the third grade level in which every fifth word has been replaced with a blank, the learner will choose the exact word appropriate to the blank space at 50% accuracy					
4. Given a method of arranging data the learner will identify the method (e.g., color, size, importance, time, etc.)					
5. Given a series of randomly placed words, the learner will be able to alphabetize the words through the first three letters.					
6. Given a series of reading selections the learner will indicate those which are factual.					
7. Given a series of reading selections the learner will indicate those which are fictional.					
8. Given a reading selection, the learner will be able to identify the author's purpose (e.g., persuasion, entertainment, propaganda, etc.)					
9. Given a reading selection at the third grade level, the learner will select from a list of possible titles the one most appropriate as the title for that selection					

RATING SCALE: 5 = Very important, critical, or essential;
4 = Above average importance; 3 = Average importance;
2 = Below average importance; 1 = Unimportant, inappropriate,
or irrelevant

Objective Number

	5	4	3	2	1
10. Given a reading selection at the third grade level, the learner will select from a series of still pictures the one picture most appropriate in depicting the main idea of the selection.					
11. Given a reading selection at the third grade level, the learner will select from a number of short summaries the one which best summarizes the selection					
12. Given a reading selection at the third grade level, the learner will match a series of direct quotations from the story with the character who is speaking.					
13. Given a reading selection at the third grade level, the learner will choose from a series of sentences that sentence which best describes how a given character feels in a story.					
14. Given a selection containing figurative language, the learner will identify from a series of descriptive phrases the phrase that most accurately describes the mood expressed in the selection.					
15. Given a reading selection at the third grade level, the learner will correctly match a series of causes with a corresponding series of effects.					
16. Given a reading selection at the third grade level with the conclusion of the story deleted, the learner will select from a series of possible conclusions the one most appropriate to the selection.					

RATING SCALE: 5 = Very important, critical, or essential;
4 = Above average importance; 3 = Average importance;
2 = Below average importance; 1 = Unimportant, inappropriate,
or irrelevant

Objective Number

17. Given a locational question, the learner will choose from a series of reference sources where that item will be found.
18. Given a locational question about newspapers, the learner will select where he would find the answer.
19. Given a reading selection at the third grade level, the learner will answer correctly a series of multiple choice questions relating to meanings, generalizations, or conclusions not expressed in the selection itself.

5	4	3	2	1