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ABSTRACT

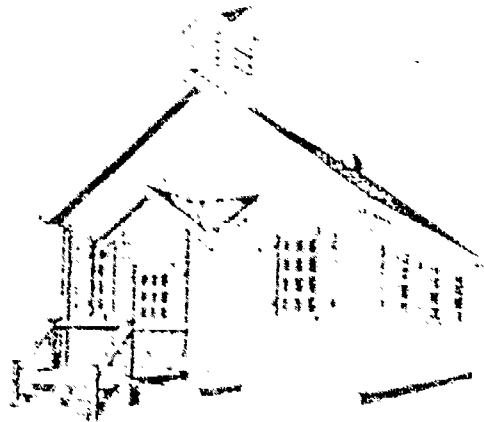
This resource document outlines the expectations and standards for kindergarten through 12th-grade educational programs in the state of Michigan. Developed over several years in cooperation with representatives from 33 state organizations and local school district staffs, the standards suggest expectations for educational programs that may be used as a self-assessing tool for school improvement. The specific standards used in this document do not include items required by state or federal law, rule, or regulations. The components of the standards of quality are presented in six sections: (1) school improvement process; (2) district-level programs; (3) building-level programs; (4) subject time-allocation suggestions; (5) classroom level and subject specific areas (communication skills, mathematics, science, social studies, physical education, music, visual arts, health, and foreign language); and (6) special need areas (compensatory education, migrant/bilingual education, gifted/talented education, special education, vocational education, and juvenile rehabilitation programs). Each section contains specific steps to follow to achieve the desired standards. Included with the document is an extensive appendix in 17 sections containing future discussion and research regarding the program components. The state board of education anticipates that these standards will continue to be reviewed and upgraded in the future. (MD)

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MICHIGAN K-12 PROGRAM STANDARDS OF QUALITY



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Michigan K-12 Program Standards of Quality

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INTRODUCTION

A frequently asked question has been: "What is a good education?" Implicit in the question is the idea of a standard, a benchmark or criteria against which the quality of the school experience can be judged. The program standards presented in this document are a resource that describes reasonable levels of quality for Michigan's school programs.

The Michigan K-12 Program Standards of Quality, is designed to be used on a voluntary basis by local districts and schools for local self-assessment of school programs to estimate a level of quality and identify areas for improvement. In addition, summary data collected at the state level can be used as an estimate of a broad level of educational quality and equality within the state of Michigan. It is hoped that the material in this resource document will be helpful to districts and schools who choose to undergo a review of their programs.

This document recognizes three major principles: (1) some elements of education can be judged better by looking at the school program rather than by measuring student performance alone; and (2) it is better to set standards as a goal for all rather than setting norms which only can be achieved by a few; and (3) constructive change is encouraged through a process calling for an objective assessment of school programs followed by a well defined and articulated district-wide school improvement process.

These standards are thought to be both pedagogically sound and practical, in terms of school curriculum and operations by many local educators and professional association representatives. The standards have been set at levels high enough so that they would serve as a challenge, but also they have been set realistically so that they could be achieved. It is recognized that some local school districts may not presently have the capability for implementing all of the standards in this document. The results of a self-assessment can be used by the local district to further examine curriculum for the purpose of adjusting resources to achieve a balanced curriculum and effective instruction. To the extent that resources permit, however, it is hoped that these standards will make a major contribution to the identification of the quality of educational programs, and to the improvement of educational programs, in the State of Michigan.

Recognizing that all people may not agree with all of the specific standards, the K-12 program standards document is available from the Department of Education in a checklist format that provides a rating scale for desirability as well as achievement. A dual judgment can be made on each of the proposed standards to determine if it is thought to be important and to what extent each standard has been achieved. A strong emphasis is placed in the document on taking steps to improve the school program.

Schools are complex organizations and they must be viewed in many different ways, therefore the document includes standards for: (1) a School Improvement Process, (2) the District Level, (3) the Building Level, (4) the Classroom Level, and (5) Special Needs Programs.

Since the standards are presented as a resource and are meant to be used on a voluntary basis for the purpose of local self-assessment, the specific standards used in this document do not include items required by state or federal law or rules and regulations. Compliance standards and criteria are available for state and federally funded programs from appropriate State Department of Education offices.

During August 1981 through October 1982, representatives from 32 state professional associations and agencies have met together, as a task force for the Superintendent of Public Instruction, to develop an initial version of the Program Standards document. Version I is based on judgments from the professional associations represented on the Task Force and a survey of 600 questionnaires mailed to field educators (superintendents, principals, classroom teachers and specialists), local board members, PTA and Department of Education staff. In total, approximately 40,000 responses to the items were rated and recorded. Adjustments were made to the document based on the survey data. In general, the survey results showed that there is substantial support for the items within the Program Standards document. However, this is not the same as saying there is substantial support for the total document.

Recognizing this, the Task Force recommended that the Michigan Department of Education conduct a field testing of the use of the document during the 1983-84 school year.

The current document is the result of modification based on the field test. It is the plan of the State Board of Education to encourage an evolutionary process toward the development of the Michigan K-12 Program Standards of Quality document that is supported by the research community, education practitioners, parents and the community at large. It is anticipated that the program standards will continue to be reviewed and upgraded in the future so that the document represents the best consensus in the state of what ought to constitute a reasonable level of quality in Michigan school programs.

PART I

MICHIGAN K-12 PROGRAM STANDARDS OF QUALITY

The School Improvement Process

It is important that educators give attention to the entire school improvement process if their efforts toward change are to be successful. The local board of education and administration should establish a group for the purpose of examining the school district's school improvement process that calls for an objective assessment of school programs followed by a well defined and articulated district-wide school improvement process.

The following school improvement process acknowledges the most current research on effective schools and the change process. The process is a systems model for school improvement. Users of the systems model will continuously analyze and revise their plans and procedures throughout implementation.

The Michigan Program Standards document provides suggested criteria by which educators, parents and other citizens may conduct analyses of the schools' strengths and weaknesses, and take steps toward improvement.

SCHOOL IMPROVEMENT PROCESS

- Step I. Establish District-wide School Improvement Committee.
- A. Build support for the committee within the school district and community.
 - B. Select members that represent the staff and community.
 - C. Determine the committee process procedures.
 1. Select chair.
 2. Determine future meetings.
 3. Determine the relationship of the local board of Education and the local administration to the School Improvement Committee in the area of decision making.

D. Determine the scope of the program review activity:

1. Determine the organizational levels selected for review:

- a. District
- b. Building General
- c. Building Specific:
 - Media Guidance and Counseling
- d. Classroom General
- e. Classroom Specific:
 - Communication Skills Physical Education
 - Mathematics Music
 - Science Visual Arts
 - Social Studies Health
 - Foreign Language
- f. Time Allocation
- g. Special Needs:
 - Special Education Gifted and Talented Education
 - Bilingual Education Compensatory Education
 - Migrant Education Secondary Vocational Education

2. Determine grade levels selected for review.

3. Determine the number of school buildings participating.

- a. Elementary
- b. Middle/Junior High
- c. High School

The School Improvement Committee is responsible for next steps.

Step II. Define the Effective School

- A. Modify (add or reword) the Standards of Quality Document, focusing the greatest attention on the areas selected for review in I(D). (Review Appendix - Section XI of the Standards of Quality Document - Variables That Make a Difference.)
- B. Rate each of the characteristics within the Standards of Quality Document, as modified, judging its "Desirability," i.e., "How desirable is it to have this characteristic within the district?" These results will be used in Step IV. (Review Appendix - Section I - Measurement Format. The K-12 Program Standards Document is available from the Department in a checklist format to facilitate this rating process.)

Step III. Analyze Student Performance Data

- A. Attend Department of Education Fall Assessment Workshops.
- B. Conduct staff survey of perceived student achievement levels, focusing on the areas selected for review in I(D). (Review Appendix - Section XII - Staff Perceived Student Achievement Levels.)
- C. Determine the measures to be used to indicate student achievement progress.
- D. List strengths and weaknesses, focusing on the areas selected for review in I(D).

Step IV. Analyze School Program

- A. Rate each of the characteristics within the Standards of Quality Document, focusing on the areas selected in I(D) and as modified in Step II, judging the degree to which the characteristic has been "Attained," i.e., "To what degree is this characteristic present within the district?"* (Review Appendix - Section I - Measurement Format. The K-12 Program Standards Document is available from the Department of Education in a checklist format to facilitate the rating process.)
- B. List strengths and weaknesses of the school program by comparing the items identified as being "Desirable" (a rating of high or medium) with the "Attainment" ratings.

Step V. Select Areas for Attention

- A. List the major areas of weakness in student performance from Step III.*
- B. List the major areas of weakness in program from Step IV.*
- C. Describe the major areas to be targeted for attention following the review of (A) and (B) above.

*The district may want to recognize the strengths which were recognized in III and IV in some way to the staff and community.

Step VI. Develop a School Improvement Plan of Action

- A. Write a plan of action for each of the targeted areas selected in V(c) -- what actions you expect to accomplish using the category below. Also give a target date for completion and a person responsible. (Make as many copies of the form as necessary.)

Target Area (from V(c)):

Target Date:

Person Responsible:

1. Policy:
2. New Courses:
3. Instruction (curriculum or methodology):
4. Materials, equipment, and facilities::
5. Staffing:
6. Training:
7. Organization:
8. Administration/management:
9. Time Allocations:
10. Budget:
11. Other:

Step VII. Monitor the Implementation

- A. Based upon the target date listed in VI(A), monitor the school improvement plan to determine if the actions described in VI have been accomplished.
- B. If they have not been accomplished, identify the steps which will be taken to accomplish those actions.

Step VIII. Evaluate the Results

- A. Repeat Steps III(B), (C), and (D) to determine if there has been a change in student performance.
- B. Repeat Steps IV(A) and (B) to determine if there has been a change in school program.

Step IX. Recycle

- A. Return to Step II.

PART II

MICHIGAN K-12 PROGRAM STANDARDS OF QUALITY - DISTRICT LEVEL

It is important that local boards of education give direction by establishing instructional policy and that the administrative staff provide leadership in developing and implementing policy.

This part of the Michigan Program Standards document acknowledges this policy-making role of the local board and the leadership role of the local administration.

For the following list, it is the role of the local board to establish the policy and the responsibility of the administration to implement the policy.

I. The Learning Environment

- A. A policy states that the educational program promotes equal quality educational opportunities for all students regardless of their culture, ethnicity, race, sex, or exceptionality. (Appendix - Section XVIII: State Board of Education Policy: Equal Educational Opportunity)
- B. A policy states that the educational program promotes positive attitudes toward self and all cultures, ethnicities, races, sexes, and exceptional students.
- C. A policy states the attendance standards for students to include clear incentives and sanctions to reduce time lost. (Appendix - Section XIII: Model Policy for Absenteeism)
- D. A policy states the Code of Conduct expected of students. (Appendix - Section XV: Model Policy for Discipline--A Code of Conduct)
- E. A policy provides for alternative programs for disruptive students that includes procedures to cooperate with community agencies to help reduce and prevent discipline problems.
- F. A policy states that employees and students have a school environment that is conducive to learning. (Appendix - Section XVII - School Learning Climate: Assessment Instrument)
- G. A policy provides for a systematic and periodic review of facilities and resources, including the library and media centers, to ensure that they are adequate for the instructional program.
- H. A policy states procedures for the selection, and challenges of, instructional materials and equipment. (Appendix - Section XVI - Model Policy for Procedures for Textbook Review)
- I. A policy which affirms the Board's commitment to race and sex equity in all aspects of the education delivery system including staffing, programming and student performance expectations.

II. Instruction

- A. A policy states that the district will establish high student achievement expectations and clearly defined goals and performance objectives for each subject/course area for use by the building level.
- B. A policy states that the district establish a strategy for providing continuous student development in the essential and life role skills. (Appendix - Section IX: Michigan Essential Skills and Section VII: Michigan Life Role Competencies)
- C. A policy states that the district establish standards for assigning homework. (Appendix - Section XIV: Model Policy for Homework)
- D. A policy and standards are established to determine which students should receive remedial, supplemental, and accelerated learning services, to insure that all students are given the opportunity to achieve at high levels of learning.
- E. A policy states that principals submit a periodic plan to improve the building's instructional program.
- F. A policy states that the educational program provides for Individual Learning Plans that include instruction, assessment, record-keeping, and performance reporting.
- G. A policy states that Employability Development Plans are used to help prepare youth for career jobs. (Appendix - Section VII: Michigan Life Role Competencies - Employability and Occupational Skills)
- H. A policy states that the school board supports the concept of parent, citizen, teacher, student, and staff personnel involvement in planning and reviewing instructional programs.
- I. A policy states that special instructional needs of students are addressed in the regular classroom and are coordinated with special needs programs (disadvantaged, bilingual, handicapped, gifted, etc.) (Special Needs Section A-F)
- J. A policy states the local board's support for equal access to instructional equipment, facilities, resources and supplies by the adult education program.

III. Staff Development

- A. A policy states that the district has an on-going professional development program that responds to the needs of board members, administrators, teachers and support staff.
- B. A policy states that a plan is made for assisting reassigned school personnel to prepare them for new assignment(s) within the district.

IV. Time Allocation and Scheduling

- A. A policy states the rationale that is used for allocating instructional time. (Appendix - Section VI: Instructional Time)
- B. A policy states that the district encourages time for inside and out of school educational enrichment activities.

V. Evaluation and Program Revision

- A. A policy states that the educational programs will be evaluated regularly, to include the learning environment, instruction, staff development, time allocation and scheduling.
- B. A policy states that each building will develop periodically an educational improvement plan which encompasses the findings of the previous program evaluation.
- C. A policy states that, where the expectations were not met, the board and administration will make every effort to support a building action plan for educational improvement.

PART III

MICHIGAN K-12 PROGRAM STANDARDS OF QUALITY - BUILDING LEVEL

It is important that the building principal provide leadership in the implementation of local board policies and resulting administrative procedures and that the school staff and community representatives participate in program planning, implementation and review.

It is desirable that each school develop a clearly defined statement of purpose--philosophy that reflects a commitment to the unique age range of the students in the school.

This part acknowledges the leadership role of the principal, the involvement of the staff and community in the school's program and the role of staff in implementing an educational program that is an integrated, co-educational and bias-free environment.

Section A. General Program Standards K-12

I. Building and Classroom Learning Environment

- A. A positive learning environment for students exists in the building and in each classroom.
 1. Administrators and staff have high expectations and expect all students to achieve.
 2. Administrators and staff provide for a safe and orderly learning environment.
 3. Administrators and staff demonstrate a supportive and positive attitude toward students and toward one another.
 4. Administrators and staff provide a creative and stimulating learning atmosphere for students.
 5. Administrators and staff provide for transition of each student from one developmental level to another. (Appendix - Section II: Developmental Level)
 6. The school's instructional program includes various cultural, ethnic, racial, socio-economic, and demographic characteristics.
 7. The school's instructional program includes the recognition and contributions of girls/women as well as boys/men.
 8. The school's instructional program includes the recognition and contributions of Blacks, Hispanics, Native Americans, and other ethnic groups.
 9. The entire school staff and students promote positive actions and attitudes toward all people of different background and ability.

- B. The facility and instructional materials contribute positively to the learning environment to support the instructional program and individual student instructional needs.
1. Physical facilities include appropriate space and resources for a variety of instructional activities.
 2. Physical facilities include space for storage of instructional materials and display space for student projects.
 3. Physical facilities include a media center and/or a resource center for use by students and teachers.
 4. Physical facilities include teacher work space with provision for collection of reference and resource material.
 5. Facilities and instructional materials are systematically and periodically reviewed by the building staff and recommended changes are made for inclusion in the building's improvement plan. (Appendix - Section XVI: Model Policy and Procedures for Textbook Review)

II. Management of the Educational Program

- A. The principal provides instructional leadership in the educational program.
1. The principal works with staff to plan, organize, implement, and evaluate the educational program.
 2. The principal and/or supervisory personnel observe teaching activities frequently for the specific purpose of assisting in the improvement of instruction.
 3. The principal assists staff in the implementation of the interdisciplinary teaching objectives. (Appendix - Section V: Interdisciplinary Instruction)
 4. The principal provides opportunities for the community to assist in reviewing the educational program.
 5. The principal keeps parents informed about the educational program.
 6. The principal keeps current in the research, methodology, and curriculum concerns related to the essential skills.
- B. The principal and staff plan the educational program to meet the instructional needs of each student.
1. The principal and staff include internal and external specialists and consultants when appropriate in program development, implementation and coordination.

2. The principal and staff establish goals consistent with the district goals for the educational program.
3. The principal and staff designate performance objectives, consistent with system-wide objectives, on which to concentrate.
4. The principal and staff plan for the allotment of time to each skill area to assure effective use of time and to achieve a balanced curriculum. (Appendix - Section VI: Instructional time)
5. The principal and staff match instructional material to the student performance objectives.
6. The principal and staff use performance objectives, effective instructional activities, assessment results, student record-keeping system, and reporting of progress system.
7. The principal and staff plan sequential instruction to assure continuous learning.
8. The principal and staff plan instruction to include interdisciplinary approaches to learning. (Appendix - Section V: Interdisciplinary Instruction)
9. The principal and staff plan independent study opportunities for students as appropriate.
10. The principal and staff plan instruction to allow student choice of exploratory and elective experiences that address individual interests of students.
11. The principal and staff plan homework study opportunities for students based on district policy. (Appendix - Section XIV: Model Policy for Homework)
12. The principal and staff prepare all youth for careers through the use of Employability Development Plans. (Appendix - Section VII: Life Role Competencies - Employability and Occupational Skills)
13. The principal and staff plan experiences for individual responsibilities and social development of the students in the school. (Appendix - Section XV: Model Policy for Discipline - A Code of Conduct)

III. Staff Development

- A. The total staff participates in professional development activities designed to improve the educational program.
- B. The principal coordinates and attends professional development activities identified in cooperation with building staff.
- C. The total staff is trained in the characteristics of developmental levels and the instructional implications. (Appendix - Section II: Developmental Levels)

IV. Evaluation and Recommendations

- A. The principal and staff evaluate the educational program in terms of student attainment of the performance objectives.
 - 1. A variety of appropriate instruments are used for evaluation.
 - 2. Results of evaluations are analyzed and interpreted.
 - 3. Results of evaluations are reported to appropriate persons.
- B. Evaluation and reporting of student performance is personal and constructive.
- C. The principal and staff develop written recommendations for instructional improvement based upon their analysis and interpretation of the evaluations.
 - 1. The program improvement recommendations are submitted to the school district superintendent.
 - 2. The improvement recommendations are considered when the school's instructional program is modified.

Section B. Program Support Services

Introduction

This section acknowledges the program support roles of the school media and the guidance programs.

I. The School Media Program K-12

Media services are designed to assist learners in their ability to find, evaluate, generate and apply information that helps them to function effectively as individuals and participate fully in society. The student acquires skills in reading, observing, listening and communicating ideas. The Media Center provides experiences which assist learners in developing a spirit of inquiry, greater self motivation and a capacity for self-evaluation. A second major purpose of the program is to provide classroom teachers with instructional materials and assistance.

The media program exists to support and promote the goals and objectives formulated by the school and district. The program is a combination of people, facilities, materials, machines and processes. The emphasis and combination of these resources depend upon the needs of the instructional program it serves, whether at the building or district level. The more purposeful and effective the mix, and the more sensitively it responds to the curriculum and the learning environment, the better the media program. It is essential to create a supportive, responsive environment for staff and students with open access to resources and facilities.

District, regional and/or state resources are critical components of the schools' instructional program in this era of information overload and cost effectiveness. This resource network provides leadership, expertise, materials and services the individual building and small districts cannot provide.

I. Instructional Management.

A. Students are taught the skills of:

1. Locating, retrieving, interpreting and evaluating information.
2. Media center use, media appreciation, uses of resources, and equipment operation.

B. Students have the opportunity to:

1. Apply media skills to classroom assignments.
2. Receive reading guidance.
3. Receive meaningful literary appreciation experiences.

II. Program Planning and Management

- A. Policies and procedures for effective media services are established for the school.
- B. The program is reviewed periodically and recommended changes are made for inclusion in the building improvement plan.
- C. Circulation of materials/equipment is efficient and indexing is adequate for effective retrieval.
- D. Economical and efficient sources are secured for acquiring material and equipment.
- E. A periodic inventory of all holdings is conducted.

III. Assisting Teachers and Administrators

- A. Individual instruction in the operation of equipment, design and production of materials is provided.
- B. Inservice activities dealing with selection and effective use of resources including electronic media are provided.
- C. Leadership, technical expertise and coordination are provided to the building staff by a district or regional media consultant.

IV. Staffing

- A. The media specialist has responsibilities in the following areas:
 - 1. Program planning, coordination, evaluation and reporting.
 - 2. The instructional design process.
 - 3. The selection of appropriate resources to support the school curriculum
 - 4. The training of support staff.
- B. A person with skills in the preparation, processing and maintenance of materials and equipment is available to assist the media specialist.
- C. A well defined media program is established in the school with consideration given to an adequate media specialist student ratio.

V. Facilities, Materials, and Equipment

- A. Facilities, equipment and materials are reviewed periodically by the media staff and recommended changes are made for inclusion in the building improvement plan.
- B. Adequate quality and quantity of materials and equipment are available to meet the curricular objectives and recreational interests of students.

- C. Instructional media resources available through other educational and community agencies are used.
- D. Maximum accessibility to materials and equipment is offered to students and staff.
- E. Space for the following functions and learning activities is incorporated into the media facility:
 - 1. Book browsing, reading, and story telling.
 - 2. Research instruction.
 - 3. Listening, viewing, and interaction.
 - 4. Circulation and distribution.
 - 5. Equipment and materials storage.
 - 6. Office and workroom area.
- F. The purposes, applications and provision of new instructional technology (computer, video, etc.) are investigated related to instructional improvement.

II. THE GUIDANCE PROGRAM K-12

Guidance and Counseling Services

A major thrust of the Guidance Program is to create activities geared to meet the developmental skills for student personal and social responsibilities. A guidance curriculum must be prepared that will facilitate a systematic and sequential approach to guidance.

The major themes that must be dealt with in the guidance curriculum include understanding self, others, feelings, goals, decision-making, friendship, interpersonal relationships, inter-social relationships, educational and career choices, and the world of work.

The guidance and counseling program should be built on the belief that: 1) each individual is unique, 2) guidance and counseling is a shared responsibility of the total staff, and 3) the success of the program is based on objective evaluation criteria.

The guidance curriculum should deliver services that will empower students to: 1) enhance their learning process, 2) more effectively deal with their present life situations, 3) become self-directed in preparing for their life/career roles, and 4) develop positive personal, interpersonal, and social skills.

I. The program provides students with the opportunity to:

- A. Develop a realistic self-understanding.
- B. Develop skills in problem-solving, decision-making, and conflict management.
- C. Explore educational and career choices, and the world of work.
- D. Develop positive interpersonal and social skill understandings.
(Appendix - Section XV: A Model Policy for Discipline: A Code of Conduct)
- E. Acquire good study skills.

II. Program Planning and Management

- A. The school district has established policy and procedures for the program.
- B. The program is based on student objectives established by the district and building which includes:
 1. personal and social development.
 2. educational and academic development.
 3. career development. (Appendix - Section IX: Michigan Essential Skills - Career Development)

- C. The program is reviewed periodically and recommended changes are made for inclusion in the building instructional improvement plan.
- D. The guidance staff utilizes student support personnel such as school social worker, psychologist, nurse, and speech therapist.
- E. The guidance staff utilizes community resources such as mental health and child guidance clinics, service clubs, business and industry, and youth organizations, when appropriate.

III. Assisting Teachers and Administrators

- A. The program staff provides assistance to building staff to:
 - 1. Address individual student needs.
 - 2. Integrate guidance procedures into the regular classroom.

IV. The program has an adequate collection of information dealing with:

- A. Referral to appropriate agencies and other resources.
- B. Measurements and appraisal.

V. At the high school level the program provides career information and placement.

- A. Job market trends.
- B. Apprenticeship programs.
- C. On-the-job training programs.
- D. Military programs.
- E. Non-traditional job/career options.
- F. Educational placement.
 - 1. College, junior/community college, and vocational programs.
 - 2. Adult education programs.
 - 3. Correspondence schools.
- G. Financial aid for all types of educational and vocational opportunities.

VI. Staffing

- A. The guidance staff has responsibilities in the following areas:
 - 1. Program planning, coordination, and evaluation.

2. Student appraisal, measurements, and evaluation.
 3. Counseling (group and individual).
 4. Consulting (parents, teachers, administrators, and community).
 5. Educational and occupational information.
- B. The school staff participates in ongoing inservice programs which emphasize guidance related needs.
- C. A counseling program is established in the elementary school with consideration for an adequate counselor/student ratio.
- D. A counseling program is established in the middle/junior and senior high school with consideration for an adequate counselor/student ratio.
- E. Clerical services are available to the guidance counselor.
- VII. Facilities and materials are reviewed periodically by guidance staff and recommended changes are made for inclusion in the building's instructional improvement plan.

PART IV

SPECIFIC SUBJECT TIME ALLOCATION SUGGESTIONS

It is the responsibility of each school and district to allot time to each content area in order to achieve a balanced instructional program. This allotment of time should be made considering the specific instructional needs of the students, the developmental needs of children, the specific goals of the school and district, and the total time available.

Grades K-8

The following table is a recommendation of time allotments for an instructional year. It is expressed in percents (based on 900 hours) in grades K-8.

Content Area	Percentage of Time		
	K - 3	4 - 6	7 - 8
Communications Skills	40	32	15
Mathematics	15	15	15
Science	6	9	13
Social Studies	4	9	13
Physical Education	4	4	5
Music	3	3	5
Visual Arts	3	3	5
Health Education	3	3	5
Foreign Language	*	3	5
Media Skills	3	3	5
Vocational Education/ Career Education	*	*	5
Computer Education	*	*	*
% of time remaining	19%	16%	9%

*Provided as a part of other content areas

High School Graduation Requirements

It is recommended that all high school graduates complete:

- * Four years of communications skills, including reading, grammar, literature, writing, speaking, listening, and critical thinking.
- * Two years of mathematics including at least one course covering algebraic concepts.
- * Two years of science, including both biological and physical science.
- * Three years of social science, including government, history, economics, cultural and ethnic studies, geography, law-related studies, and critical thinking.
- * Two years or more in one or a combination of the following areas:
 - (1) foreign language,
 - (2) fine or performing arts,
 - (3) vocational education or practical arts.
- * One year of health and/or physical education.
- * One-half year of "hands-on" computer education.

Students who plan to go to a four-year college or university should be encouraged to study the following:

- * One additional year of mathematics, making a total of three years, including algebra, geometry, advanced algebra, and trigonometry.
- * One additional year of science, making a total of three years, including biology, chemistry, and physics.
- * At least two years of a foreign language.

PART V

PROGRAM STANDARDS - CLASSROOM LEVEL AND SUBJECT (CONTENT) SPECIFIC AREAS

Introduction

It is important that the teacher have high learning expectations for all students, and plan for and provide effective instruction.

This part acknowledges the role of the teacher in providing effective instruction.

Section A. General Classroom Level Standards

I. Instructional Expectations

- A. The instructional program is based on the performance objectives established by the district and building.
- B. The instructional expectations are reviewed periodically, based on what students have learned.
- C. Recommended changes in the instructional program are made for inclusion in the building instructional improvement plan.

II. Program Planning and Management

- A. Student performance objectives, assessment materials, instructional materials, and record-keeping and reporting materials are organized, readily accessible and used consistently in each content area.
- B. Instructional objectives are organized in a range from simple to complex for use with individual students as well as a class.
- C. Lesson or unit plans indicate a variety of instructional and learning alternatives which are matched to the district's performance objectives.
- D. Classroom management activities are consistent with the district's Code of Student Conduct. (Appendix - Section XV: A Model Policy for Discipline - A Code of Conduct)

III. Instructional Planning

- A. The teacher will select an objective at the level of difficulty and thinking appropriate for the learner's level of development. (Appendix - Section II: Developmental Levels)

- B. The teacher will determine appropriate pace of lessons by monitoring student progress and making necessary adjustments.
- C. The teacher will design lessons to:
 1. Provide concentrated time* on task toward achievement of the objective. (Appendix - Section VI: Instructional Time)
 2. Include a variety of motivational elements such as feeling of success, immediate and specific feedback to students, interest, level of concern, and extrinsic/intrinsic rewards.
 3. Include maximum amount of student participation during, as well as following, direct instruction.
 4. Insure adequate student practice, both massed and distributed, to promote retention.
 5. Enable students to apply the knowledge they have retained.
- D. The teachers will design lessons which provide students with opportunities to think at higher levels (such as analysis, synthesis, and evaluation) after they have attained the knowledge and understanding levels.
- E. Teachers provide lessons to help students consider societal changes which have an impact on values.
- F. Teachers report student achievement of the objectives to parents frequently throughout the school year and plan together for student progress.

IV. Instruction

- A. Teachers provide students with an understanding of the relationship between the instruction provided and the students' achievement of specific performance objectives.
- B. The teacher's choice of instructional activities and instructional grouping is related to the student's level of development rather than grade level placement.
- C. The teacher uses various flexible instructional grouping patterns which include whole class as well as one-to-one instruction.
- D. The teacher has organized instruction so that student learning styles and rates of learning are accommodated.
- E. Instruction helps students distinguish between scientific evidence and personal opinion.

- F. Teachers provide instruction which is free of bias based on race, sex, ethnicity, and exceptionality.
- G. Teachers provide creative activities for students, such as role playing, simulations, gaming, interacting, or group tasks.
- H. When providing content area instruction, the content teacher should:
 1. Consider the reading instructional level of students.
 2. Teach the reading skills and study skills which pertain to the specific content area.
- I. Teachers use strategies of questioning to promote higher level thinking and reasoning skills. (Appendix - Section III: Higher Level Thinking Skills)
- J. Teachers use peer tutoring, cross-age tutoring, and mentors as alternative teaching strategies.
- K. Teachers use the community as a resource to contribute to the instructional program.
- L. Teachers use homework study, based on local board policy, to support the instructional program. (Appendix - Section XIV: Model Policy for Homework)

V. Staffing

- A. In addition to certification, teachers demonstrate preparation in each of the areas of assignment.
- B. Teachers participate regularly in staff development in the areas they teach.

VI. Materials, equipment, and facilities

- A. Student performance objectives are supported with appropriate instructional materials and/or equipment.
- B. Instructional materials and/or equipment are readily available, are in adequate supply, and provide for group and individual student learning needs and interests.
- C. Materials, equipment and facilities are reviewed periodically with recommendation made for inclusion in the building instructional improvement plan.

Section B. Specific Subject (Content) Standards

Introduction

This section acknowledges the role of the teacher in providing instruction in specific essential skill areas.

The content areas describe standards that represent two major learning situations: 1) the program that should be provided to all students and 2) the program offerings that should be available to students based on the student's interest that provides them with an opportunity to elect from a variety of optional courses. Additionally, many of the content areas describe standards for instructional material, equipment and facilities and for staffing.

Content teachers should teach the reading, writing and study skills that pertain to their content areas.

In reviewing the essential skill programs, the general program standards in Part I, Part II Section A and Part III Section A should be applied along with the following specific content standards.

I. The K-12 Communication Skills Education Program

The Communication Skills consist of Listening, Speaking, Writing, and Reading. They are interrelated skills which enable student learning in all subjects and disciplines; consequently, they should not be taught as isolated skills nor should instruction in and use of these skills be confined to the language arts curricula. Reading and writing, speaking and listening are not subjects, but are processes used in all subject areas from kindergarten through grade twelve.

All teachers should be aware of the special needs for developing these skills in their subject areas and should have acquired instructional background sufficient to facilitate student learning through reading, writing, speaking and listening. Subject matter teachers should allocate time in their instructional program to emphasize each of these skills.

English courses in the secondary schools consist of advanced instruction in reading, writing, oral language skills and instruction in the history and structure of language.

In reviewing this section, the general program standards in Part I, Part II Section A, and Part III Section A should be applied. The Michigan Essential Performance Objectives for Communication Skills should also be reviewed. (Appendix - Section IX: Michigan Essential Skills)

I. The Communication Skills Program

A. The K-8 Reading Program

1. In the reading skill area students are taught:
 - a. To recognize words through phonetic, structural, and contextual analysis;
 - b. To apply comprehension skills, both literal and inferential;
 - c. To use study skills through context-type materials;
 - d. To apply reading skills through practice and reinforcement in all content area material.
2. Students will have the opportunity to:
 - a. Share reading experiences with others;
 - b. Read independently and self-select reading material;
 - c. Reinforce reading experiences for a variety of purposes through a personalized reading plan.

B. The K-8 Writing Program

1. In the writing skill area students are taught:
 - a. To organize their thoughts into a written expression;
 - b. To write in a variety of styles and for a variety of audiences;
 - c. The mechanics of writing, editing and word usage;
 - d. To discover their own voice, audience and purpose for writing;
 - e. To evaluate, clarify and develop their writing through revision.
2. Students will have the opportunity to:
 - a. Write on a regular daily basis;
 - b. Gain experience in all stages of the composing process;
 - c. Share their writing with others;
 - d. Write for a variety of purposes and audiences;
 - e. Use writing in the study of subjects other than language arts.

C. The K-8 Listening Program

1. In the listening skill area students are taught to:
 - a. Listen for a variety of purposes;
 - b. Comprehend the meaning of spoken messages;
 - c. Listen critically;
 - d. Use study skills related to listening.
2. Students will have the opportunity to:
 - a. Apply listening skills to life's experiences.
 - b. Recall information presented orally.
 - c. Identify and describe orally the main story line or sequence of events of a story or event.

D. The K-8 Speaking Program

1. In the speaking program students are taught to:
 - a. Articulate words in standard English to express thoughts;
 - b. Recite in distinctive and expressive speech;
 - c. Converse and express opinions in group discussions.
2. Students will have the opportunity to:
 - a. Participate in creative speaking activities, such as creative dramatics and role playing;
 - b. Speak for a variety of purposes;
 - c. Apply speaking skills to life's experiences.

E. The 9-12 Reading Component of the English Program

1. In the reading component, acquisition of reading skills is expanded and students are taught to:
 - a. Skim, scan and adjust reading speed to purpose;
 - b. Apply their reading skills in all content areas.
 - c. Recognize words using a variety of methods.
 - d. Apply their reading skills in all literature and related material.

2. Students will have the opportunity to:
 - a. Select and read a wide variety of books and other materials that includes classic, adolescent, and multicultural literature;
 - b. Participate in advanced and improved reading skill courses including study skills, speed reading, functional reading and literature;
 - c. Reinforce reading experiences for a variety of purposes.
- F. The 9-12 Writing Component of the English Program
1. In the writing component, students are taught:
 - a. To use the stages of the composing process;
 - b. To use the evaluation of peers and teachers to improve writing skills;
 - c. To use the conventions of writing (usage and mechanics).
 2. Students will have the opportunity to:
 - a. Share their writing with others;
 - b. Participate in advanced writing courses;
 - c. Write for a variety of purposes and audiences.
- G. The 9-12 Listening Component of the English Program
1. In the listening component, students are taught to:
 - a. Listen for a variety of purposes;
 - b. Comprehend the meaning of spoken messages;
 - c. Listen critically;
 - d. Use study skills related to listening.
 2. Students will have the opportunity to:
 - a. Apply listening skills to life's experiences.
 - b. Recall information presented orally.
 - c. Identify and describe orally the main story line or sequence of events of a story or event.
 - d. Identify orally the most appropriate summary of a selection.

H. The 9-12 Speaking Component of the English Program

1. In the speaking component, students are taught to:
 - a. Articulate words in standard English to express thoughts;
 - b. Recite in distinctive and expressive speech;
 - c. Converse and express opinions in group discussions.
2. Students will have the opportunity to:
 - a. Converse with others for a variety of purposes;
 - b. Participate in creative speaking activities such as creative dramatics and role playing;
 - c. Participate in advanced speech course, including forensics.

I. The 9-12 Language and Literature Components of the English Program

1. Students are provided with appropriate instruction in the history and structure of the English language.
2. Instruction in Literature:
 - a. Is directed primarily at making students capable readers;
 - b. Includes opportunities for students to appreciate and understand form, structure, genre, and history.

II. Instructional Materials

- A. A variety of reading materials, as well as other educational media at various levels, is available for students including literature, practical information, and newspapers to reinforce listening, speaking, reading and writing skills.
- B. A balanced selection of independent reading books is provided within the classroom or building, to include the classics in literature.

III. Staffing

- A. Classroom teachers have primary responsibility for reading instruction within the classroom.
- B. Content area teachers have the responsibility to teach the communication skills required within the subject taught.

II. The Mathematics Education Program

Mathematics education should provide students with the understanding and proficiency that will enable further development in mathematics and will serve as a basis for those skills which have significance in the life of the individual. More mathematics skills than ever before are required as students will live and work in a technological data-filled world.

In reviewing this section, the general program standards in Part I, Part II Section A, and Part III Section A should be applied. The Michigan Essential Performance Objectives for Mathematics should also be reviewed. (Appendix - Section IX: Michigan Essential Skills)

I. The Mathematics Program

A. At the K-8 level, students are taught:

1. Computation involving whole numbers, integers, fractions, decimals and percents.
2. Problem solving, applications, decision making, estimation and approximation, computer literacy, measurement and geometry.
3. Proper mathematical vocabulary and symbols.
4. Picture drawing and use of objects in concept development.
5. Application of reading and study skills including practice and reinforcement.

B. Students at the K-8 level will have an opportunity to:

1. Develop positive attitudes concerning the significance of mathematics in their environment.

C. At the 9-12 level, students are taught:

1. Computational skills, problem solving, algebraic concepts applications, statistics, estimation, prediction and computer literacy.
2. The applications needed for personal uses and the world of work. (Appendix - Section IX: Michigan Essential Skills - Career Development)
3. Application of reading and study skills including practice and reinforcement.

D. Students at the 9-12 level will have an opportunity to:

1. Learn the disciplines of:
 - a. Algebra;
 - b. Geometry;
 - c. Trigonometry;
 - d. Functions;
 - e. Probability;
 - f. Computer Programming.
2. Prepare for successful study of advanced mathematics in college or for a trade or business career.
3. Improve their attitude toward mathematics.

III. The Science Education Program

The goal of science education should be that of developing a scientifically and technologically literate citizen. The purpose of science education is to foster the development of creative and critical thinking skills, and to enable individuals to deal effectively with situations and problems. Therefore, characteristics of a science program should develop in individuals the ability to use scientific knowledge to benefit their well being, standard of living, and leisure time activities through understanding of technology and the environment.

In reviewing this section, the general program standards in Part I, Part II Section A, and Part III Section A should be applied. The Michigan Essential Performance Objectives for Science should also be reviewed. (Appendix - Section IX: Michigan Essential Skills)

I. The Science Program

A. At the K-6 level, students are taught:

1. Basic life, physical and earth science concepts.
2. Laboratory based processes such as observing, measuring, classifying, predicting and inferring.
3. Development of scientific attitudes.
4. The application of reading and study skills including practice and reinforcement.

B. At the 6-9 level, students are taught:

1. Integrative science processes such as experimenting and formulating models.
2. The use of science processes and content to become more effective in their personal development and life situations.
3. Career opportunities in science and technology.
4. Processes to explore values and develop appreciations concerning science and technology.

C. At the 9-12 level, students in Science are taught:

1. Career opportunities in science and technology. (Appendix - Section IX: Michigan Essential Skills - Career Development)
2. Use of science processes.
3. Science concepts and their applications.

4. Application of reading and study skills including practice and reinforcement.
 5. Problem solving skills relating science and social issues.
- D. At the 9-12 level, students will have opportunities to:
1. Learn the disciplines of earth science, biology, chemistry, and physics.
 2. Take additional science courses.
 3. Use emerging technology such as microcomputers.
 4. Explore values and develop appreciation of science and technology as it relates to life situations.

II. Special Instructional Resources

- A. Ample resources, facilities, and materials are provided by the school system for a laboratory approach to science instruction.
- B. An outdoor laboratory is available for instruction in environmental and nature study, K-12.
- C. Emerging instructional technology such as video-tapes, microcomputers, and video discs, are used in the science program.
- D. Field trips, museum visits and school camping are provided as necessary by the school district.

IV. The Social Studies Education Program

The central purpose of social studies education is the development of citizenship. The goal of citizenship, in turn, is the constant effort through decision and action to foster just relations among people and institutions. In social studies education, four elements are essential: knowledge; democratic and humane values; skills in acquiring information and thinking about social affairs; and social participation. In addition, the students' understanding of their own and other cultures and an appreciation and acceptance of cultural diversity and global interdependence should be fostered.

In reviewing this section, the general program standards in Part I, Part II Section A, and Part III Section A should be applied. The Michigan Essential Performance Objectives for Social Studies should also be reviewed. (Appendix - Section IX: Michigan Essential Skills)

I. The Social Studies Program

A. At the K-12 level students will be taught:

1. Knowledge leading to the development of significant ideas about the past, present, and future.
2. Concepts, generalizations and theories which make up the body of knowledge, which change as new information and new ideas are added.
3. Inquiry skills for acquiring, interpreting, valuing and applying information.
4. Concepts such as change, cultural pluralism, and justice.
5. Democratic values and procedures.
6. Critical thinking skills to make and implement decisions.
7. Decision making skills that recognize the importance of suspending judgment in certain situations.
8. Application of reading and study skills including practice and reinforcement.

B. Students will have an opportunity to:

1. Examine law-related studies, cultural and ethnic studies, and the social sciences of history, geography, anthropology, economics, political science, psychology, and sociology at the secondary level.
2. Discuss controversial issues through inquiry in an intellectually honest manner with a balanced consideration of all points of view.

3. Participate in community affairs.
4. Explore career occupations in the social studies and related fields. (Appendix - Section IX: Michigan Essential Skills - Career Development)

V. The Physical Education Program

Physical education should aim at the physical development of the whole person providing all students with the opportunity to develop body management skills, knowledge attitudes, and physical fitness which would enable them to participate in a variety of physical activities and are vital for optimal functioning for daily living. In addition, physical education offers potential for incorporating the other essential skill areas by integrating the cognitive and affective learning domain with psychomotor domains. The physical education program should be organized instruction not to include recess.

In reviewing this section, the general program standards in Part I, Part II Section A, and Part III Section A should be applied. The Michigan Essential Performance Objectives for Physical Education should also be reviewed. (Appendix - Section IX: Michigan Essential Skills)

I. The Physical Education Program K-12

A. Students will be taught to:

1. Perform movement patterns (non-locomotor and locomotor).
2. Acquire motor coordination.
3. Manipulate a variety of small objects.
4. Acquire fitness of the circulatory, respiratory and muscular systems.
5. Demonstrate basic principles of human movement.
6. Apply reading and study skills including practice and reinforcement.

B. Students will be taught activity-related information such as:

1. History and current events, rules and strategy, terminology, sports etiquette.
2. The origins of various sports, games, and dance.
3. Acceptable behavior while watching or participating in physical education.
4. The care and purchase of related clothing and equipment.

C. Students will have the opportunity to:

1. Acquire a sense of responsibility for self and others and a cultural perspective on physical activity.

2. Develop a positive self-concept and assertiveness.
3. Discover or invent new patterns of expression and functional movement.
4. Acquire various leisure sports skills.
5. Acquire information about career opportunities. (Appendix - Section IX: Michigan Essential Skills - Career Development)
6. Acquire knowledge and skills for water related activities.

D. Facilities

1. Indoor and outdoor instructional areas are provided specifically for the Physical Education Program.

VI. The Music Education Program

In the elementary program, music education should aim at the development of the child. In General Music the emphasis is placed on the ability to sing, listen, move or dance, create and improvise, read from notation, interpret and appreciate music from many different cultures and times. The Instrumental Program provides students the opportunity to learn to play wind, percussion, and stringed instruments of the band or orchestra. Both General and Instrumental Music should develop the student's aural and aesthetic sensitivity.

The Secondary Music Program is a natural extension of the elementary program. It provides broader experiences in performing, listening, creating and interpreting music. In contrast to the elementary program which focuses on discrimination learning, the middle school and senior high school student is challenged to understand music through manipulating its component parts and drawing inferences from the familiar to the unfamiliar.

The performing program provides students the opportunity to sing and play in a variety of ensembles and perform in public.

The purpose of music education is to open up the world of music to all students for their own personal use, whether it be for career opportunities or for any number of other leisure time activities.

In reviewing this section, the general program standards in Part I, Part II Section A, and Part III Section A should be applied. The Michigan Essential Performance Objectives for Music Education should also be reviewed. (Appendix - Section IX: Michigan Essential Skills)

I. The Music Education Instructional Program

A. At the K-8 level, students are taught to:

1. Sing, move and listen to a variety of music.
2. Create and improvise music.
3. Read and manipulate the music vocabulary.
4. Respond to and identify elements of rhythm, harmony, dynamics, melody and timbre.
5. Make judgments about style, mood and form.
6. Apply music reading and study skills, including home practice.
7. Apply music reading and study skills, including practice and reinforcement.

- B. Students at the K-8 level have an opportunity to:
1. Play a band and orchestral instrument.
 2. Play or sing in a performing ensemble.
- C. At the 9-12 level, students in music are taught to:
1. Sing, create and improvise.
 2. Identify, label and read music symbols.
 3. Listen to and compare a variety of music styles, forms and periods.
 4. Work toward musical goals as a member of an ensemble.
 5. Apply music reading and study skills including practice.
- D. Students at the 9-12 level have the opportunity for vocal performance and to:
1. Develop the voice through technical exercise and drills.
 2. Perform in a vocal ensemble.
 3. Perform a variety of choral literature.
- E. Students at the 9-12 level have the opportunity for instrumental performance and to:
1. Play a band or orchestral instrument.
 2. Perform in an instrumental ensemble.
 3. Develop playing skills through a variety of technical exercises and drills.
 4. Perform a variety of instrumental literature.
- F. Students at the 9-12 level will have an opportunity to:
1. Develop an awareness of career opportunities in music. (Appendix - Section IX: Michigan Essential Skills - Career Development)
 2. Develop leadership roles through music related activities.

II. Instructional Facilities, Material and Equipment

- A. Facilities appropriate for music instruction are available for all music classes at all levels.

- B. A variety of musical instruments are available for music instruction.
- C. At the elementary level, music textbooks, recordings and other appropriate materials are used at each grade.

VII. The Visual Arts Education Program

The purpose of education in the visual arts is to explore and develop in the student the abilities to manipulate materials, to respond to visual stimuli, to express ideas and feelings through visual elements, to develop self-confidence, to employ creative problem-solving and to develop tolerance for the appreciation of the differences in the expressions and interpretations of others.

In reviewing this section, the general program standards in Part I, Part II Section A, and Part III Section A should be applied. The Michigan Minimal Performance Objectives for Art Education should also be reviewed. (Appendix - Section IX: Michigan Essential Skills)

I. The Visual Art Program

A. At the K-8 level, students are taught to:

1. Employ principles of organization, harmony, variety, balance, movement, proportion and space with the elements of design.
2. Recognize, distinguish, and use such elements as texture, line, color, space, values.
3. Use a variety of tools and materials to create forms.
4. Use the vocabulary of the history and concepts of the arts.
5. Apply creative problem solving.
6. Participate in self-evaluation in order to make informed judgments.
7. Apply reading and study skills including practice and reinforcement.

B. At the K-8 level, students are provided an opportunity to:

1. Engage in independent and individual time to pursue special projects.
2. Create individual perceptions of objects and feelings through creative problem solving.
3. Use creative experiences to release stress and pressure.
4. Be aware of the diversity of cultures and styles of art, past and present.
5. Observe recognized artists at their work (artist studios or demonstration at school).

6. Explore the many careers developing from a knowledge of art.
 7. Participate in arts-related community affairs.
 8. Participate in exhibition of student work.
- C. At the 9-12 level, students in Visual Art are taught to:
1. Organize the elements of a creative work on the basis of both intuitive and cognitive decisions.
 2. Apply creative problem solving.
 3. Use a variety of tools and materials to create the forms desired and be aware of the care and safety rules concerning the tools.
 4. Recognize, distinguish, and use the elements of design and the principles of composition.
 5. Use the vocabulary of the history of art and concepts of the arts.
 6. Investigate the career opportunities.
 7. Cooperate in the evaluation of works of others.
 8. Apply reading and study skills including practice and reinforcement.
- D. At the 9-12 level, students are provided with an opportunity to:
1. Use creative experiences to release stress and pressure.
 2. Appreciate the diversity of cultures and styles of art, past and present.
 3. Complete advanced course work in individual media.
 4. Pursue independent projects.
 5. Participate in community arts affairs.
 6. See original art work and working artists.
 7. Participate in exhibition of student work.
 8. Develop an individual portfolio for pursuit of further training and/or employment.

E. Instructional Facility, Material and Equipment

1. Appropriate facilities for visual art instruction are available.
 - a. Safety cabinets are available for flammable material;
 - b. Adequate display area is available;
 - c. Storage for long-term projects is available.
2. Reproductions and reference material are available for art appreciation.
3. Equipment, materials, and student projects are securely stored.

VIII. The Health Education Program

Health education includes developing an understanding of basic health and safety principles, developing basic health skills, and providing information about career opportunities in the health care enterprise. Health education is designed to favorably influence health attitudes, practices, and cognitive skills related to personal, family, and community health.

Health instruction may be integrated into other subject areas, such as Science, Social Studies or Language Arts in grades K-6. Middle/junior and senior high school health instruction is taught as a separate subject.

In reviewing this section, the general program standards in Part I, Part II Section A, and Part III Section A should be applied. The Michigan Essential Performance Objectives for Health Education should also be reviewed. (Appendix - Section IX: Michigan Essential Skills)

I. The Health Education Program

A. At the K-8 level, students are taught:

1. To be aware of the influence of attitudes, feelings, values, and beliefs on personal health and safety practices, interpersonal relationships, and health decisions.
2. The social, psychological, and physical impact of health and disease on the body systems.
3. The process by which they can make informed decisions on matters pertaining to the prevention and control of health problems and the development of healthy behavior.
4. The application of reading and study skills including practice and reinforcement.

B. At the 9-12 level, students in Health Education are taught:

1. To assess the health risks which influence the quality of life and to identify change agents that will encourage the students to achieve their health potential.
2. To be aware of the career opportunities in the health care field, including those non-traditional for their sex. (Appendix - Section IX: Michigan Essential Skills - Career Development)
3. Responsible use of the health care system.
4. The application of reading and study skills including practice and reinforcement.

C. Students are provided an opportunity to acquire a sense of responsibility for self and others and a cultural perspective on health related decisions.

1. To develop a value for being healthy.
2. To acquire and use self care skills and apply self care skills with peers and family.
3. To apply self care skills to decrease health care costs.

II. Facilities

- A. Health Education is taught in the classroom environment.
- B. The community health resources are utilized, as appropriate, as teaching facilities.

IX. The Foreign Language Education Program

A Foreign Language Program has two essential purposes. First, it is designed to teach communication in a language other than English. Second, and of equal importance, it is designed to teach an understanding and appreciation of a culture different than that of the learner. These two purposes underlie the curriculum of both modern and classical languages.

The following standards take into account the twofold purposes. There are, however, some standards--specifically, those related to listening and speaking skills--that may not be relevant to the instruction of some languages.

In reviewing this section, the general program standards in Part I, Part II Section A, and Part III Section A should be applied.

I. The Foreign Language Program K-12

A. The students electing Foreign Language are taught:

1. The skills of listening.
2. The skills of speaking.
3. The skills of reading.
4. The skills of writing.
5. Stress and intonation patterns.
6. The use of gestures.
7. Vocabulary in context.
8. The use of a bilingual dictionary.
9. The unique cultural features of the people who speak/spoke the foreign language.
10. To speak within a diversity of contexts (such as reading aloud, answering questions, conversation, presenting one's own ideas or informational accounts).
11. The grammatical and syntactical concepts appropriate to the level of learning.
12. Analytical skills and memorization techniques.

- B. The student in Foreign Language is provided with an opportunity to:
1. Learn about the significant historical, political, and artistic achievements of the relevant foreign country (countries).
 2. Learn about current events and contemporary life in the relevant country (countries).
 3. Learn that the semantic range of vocabulary in another language is different from that of the nearest English equivalent.
 4. Learn idiomatic expressions.
 5. Read the literature of the foreign language.
 6. Learn about career opportunities for which a foreign language is essential or highly desirable.
 7. Learn of the importance of foreign language in today's world.
 8. Engage in extracurricular activities involving the use of the language.
 9. Have contact with individuals and/or institutions in the appropriate country (countries).

II. Instructional Materials and Equipment

- A. Equipment is available to monitor individual student performance.
- B. Supplementary materials such as current periodicals, recordings, and realia from the appropriate language community are available.

PART VI

MICHIGAN K-12 PROGRAM STANDARDS OF QUALITY FOR SPECIAL PROGRAMS

This part acknowledges the role of the special or categorical program staff, in cooperation with the general education staff, in implementing the special program standards. This section includes compensatory, bilingual/migrant, gifted/talented, special and vocational education.

The program standards suggested in this part are good practice standards that go beyond and/or are different from the compliance standards established in statutes, rules and regulations and the general program standards suggested in Parts I, II, III and IV of this document. A quality categorical program has all of the same characteristics as a quality general education program. Additionally, a number of unique standards related to program quality are mandated by law and are not considered here because they are compliance items. The special needs standards should be used in conjunction with the general program standards and with the specific mandates of a categorical area.

In reviewing the following special needs sections the program standards in Part I, Part II Section A, and Part III Sections A, B and C should also be reviewed.

Section A. COMPENSATORY EDUCATION

- I. Compensatory (Chapter I/Article 3) instruction provides students with unique opportunities to achieve at higher levels of learning.
 - A. Instruction for students in the compensatory education program is coordinated with basic skill instruction in the regular school program and, where applicable, other categorical programs.
 1. The classroom teacher, reading and/or mathematics teacher(s) and other support staff maintain communication to coordinate the instructional program for individual learners.
 2. Remedial instruction is based on a Individual Learning Plans, as determined by the strengths and weaknesses of the student through the use of appropriate bias-free diagnostic procedures.
 - B. Students in the compensatory education program are provided frequent opportunity for pupil-instructor dialogue that includes appropriate positive feedback.
 - C. Students receive services from staff members who have received training in the teaching of reading and/or math.
 - D. The compensatory education instruction is frequent and intense, such that appreciable gains are likely to result from participation in the compensatory education program.
 - E. The compensatory education program involves parent cooperation in providing educational opportunities for children beyond the regular school day and year.

II. The compensatory education program is regularly reviewed by local staff to assure ongoing program improvement efforts. These review activities include:

- A. The designation of the person(s) responsible for reviewing project activities in each building.
- B. A statement of the program review objectives.
- C. A common format for recording of the program review results.
- D. A schedule for reviewing project activities.
- E. The designation of the person(s) responsible for collecting, analyzing, and preparing a summary of and recommendations for improving project activities derived from the review data.

Section B. BILINGUAL EDUCATION

- I. The district has formulated and adopted a position statement on bilingual education to provide bilingual students instructional opportunities to achieve at higher levels of learning.
- II. School staff members of bilingual education programs and parents of bilingual education students are involved in the planning, implementation, and evaluation of the program.
 - A. Baseline data has been established to facilitate bilingual education planning and implementation.
 - B. Staff and parents are involved in planning.
 - C. Staff and parents are involved in implementation.
 - D. Staff and parents are involved in evaluation.
- III. The district has established coordination with local, state, and regional agencies for the development of:
 - A. Bilingual education curriculum.
 - B. Teacher training needs.
 - C. Inservice workshops.
 - D. Evaluation.
 - E. Research.
 - F. Teacher endorsement.
 - G. Provision of services.
- IV. The district provides administrative support to school building personnel relative to bilingual education in the following areas:
 - A. Facilitate certification for staff.
 - B. Provide information.
 - C. Materials to staff.
 - D. Foster incentives to obtain bilingual personnel.
- V. The district utilizes a bilingual education curriculum associated with student's culture and history and in his/her home language to encourage pride in his cultural heritage.
 - A. An organized, comprehensive and relevant bilingual education material resource facility is maintained.

- B. Bilingual education curriculum models and/or techniques are sequentially used.
 - C. The bilingual education curriculum is integrated into the regular program.
- VI. The district provides bilingual instruction which is culturally and linguistically appropriate for the achievement of predetermined performance criteria.
- A. The bilingual instructional program instructs students for the achievement of fluency and literacy in two languages, their native language and English.
 - B. Sequential mathematics, science, and basic language arts skills are developed in bilingual grades.
 - C. Individual Learning Plans are used in bilingual instruction.
 - D. ESL (English as a Second Language) instruction is a component of bilingual education.
- VII. All staff members of a school providing instruction are involved in a comprehensive inservice training program.
- A. A local inservice plan has been developed for the entire school staff to assist them in working with limited English-speaking students.
 - B. The training plan includes a preservice orientation for new bilingual staff members.
 - C. The local inservice plan for bilingual education is based on an assessment of the current skills, attitudes, and training of staff.

Section C. MIGRANT EDUCATION

- I. The district has a policy that supports Migrant Education to strengthen the students' achievement of higher learning levels, to assure that school personnel, who come in contact with migrant children, are involved in:
 - A. Planning.
 - B. Implementation.
 - C. Evaluation of the migrant project.
- II. There is evidence documenting a comprehensive inservice training program.
 - A. Teachers receive specific ongoing training in the identification, teaching, and recording of the National Migrant Study Skills in reading, math and oral language.
 - B. The instructional aides (paraprofessionals, teacher aides, etc.) receive specific training in academic tutoring.
 - C. The inservice training plan includes a pre-service training orientation segment for new teachers and aides. This segment includes a discussion of specific duties, the needs of migrant children, the duties of other project personnel and the results expected.
 - D. Training is scheduled for the recruiter and MSRTS (Migrant Student Record Transfer System) clerk/secretary through the Stanton Terminal.
 - E. All training includes an equity component.
- III. The instruction offered to the migrant student is targeted on the unique categorical needs of the migrant student.
 - A. There is evidence that teachers refer to the skills under study at time of withdrawal whenever possible.
 - B. There is evidence that diagnostic information is used in the development of Individual Learning Plans and in the instructional placement of every migrant child.
 - C. There is objective evidence that self-concept is systematically enhanced by means of a specific and pervasive process.
 - D. Career education is provided at all levels of instruction. (Appendix - Section IX: Michigan Essential Skills - Career Development)
 - E. There is evidence that special efforts are made to insure that the migrant student is brought up to or kept on the reading level appropriate to his or her age group.
 - F. There is evidence that Individual Learning Plans are being used to identify, plan, and evaluate the educational needs of each student.

- G. There is evidence of timely provision of ESL instruction for those students who need it.
 - H. There is evidence that special efforts are made to insure that the migrant student is brought up to or maintained at the appropriate achievement level, in mathematics, for his/her age group.
- IV. The local project supervisor oversees the instructional process and there is evidence that the supervisor closely oversees the recruiter and the MSRTS persons' activities.
- A. To ensure timely enrollment.
 - B. For distribution of critical data to teachers according to established standards.
 - C. There is evidence that the supervisor encourages project personnel to make their needs known and that the supervisor is responsive to these needs.
 - D. There is evidence that the local project supervisor makes timely plans for project reports to the State office.
 - E. There is a file of all communication from the State office.

Section D. GIFTED AND TALENTED

- I. The district has formulated and adopted a written statement of philosophy which commits the system to provide differentiated education for gifted/talented students.
 - A. The district provides programs and Individual Learning Plans which enable each student to develop abilities to his/her potential.
 - B. The program is flexible and relevant to school/community environment.
 - C. The programs are long-range and provide for K-12 articulation.
- II. Long and short range goals are defined for staff development
 - A. The authority, responsibility, and time to develop and coordinate a program is assigned to an appropriate individual.
 - B. The local inservice plan provides all staff with awareness and knowledge to assist them with identification of and programming for students.
 - C. The district has clearly defined guidelines regarding staff qualifications.
 - D. The identification, programming, evaluation and record-keeping procedures are consistent and district-wide.
 - E. The current professional references and resources relevant to gifted/talented are readily available.
 - F. The staff involved participate in the program and curriculum planning.
- III. Standards have been developed for use in identification of gifted/talented students.
 - A. The district has a plan for continuous identification.
 - B. The screening procedures are multidimensional.
 - C. The teachers are encouraged to submit data regarding behavior/achievement relevant to identification and programming for students.
 - D. The student records are available to personnel responsible for identification.

- IV. Curriculum planning considers needs, interests, and abilities of gifted/talented students.
 - A. The staff considers parent/student suggestions during planning and evaluation.
 - B. The special needs of students are considered in the assignment of staff and selection of materials.
 - C. The curriculum supplements and extends beyond regular subject matter and activities.
 - D. The program gives emphasis to problem solving and creative thinking.
- V. The district has an on-going systematic plan for evaluation.
- VI. The results are used in the building instructional improvement plan.

Section E. SPECIAL EDUCATION

A successful special education delivery system depends upon the dedication and efforts of administration and staff who provide leadership and opportunities for handicapped children to reach their maximum potential. It should be noted that these statements are a summary of a more detailed program review questionnaire available from the Special Education Program of the Michigan Department of Education.

I. Administration

- A. The district has administrative resources to effectively supervise the provision of special education programs and services.
- B. The district is operating in a cost effective manner regarding special education programs.

II. Staffing

- A. The district employs qualified personnel to provide special education programs and services.
- B. The staff to student ratio is adequate to provide programs and services.

III. Facilities

- A. Special education programs and services are provided in settings consistent with state regulations.

IV. Community Involvement

- A. The district has input into the Intermediate School District plan and the Intermediate School District Parent Advisory Committee.
- B. Parents have opportunities to participate through the Individual Educational Planning Committee process.

V. Instructional Program

- A. Personnel and Services are adequate to meet the needs of handicapped children.
- B. Curriculum has been developed in special education areas.
- C. Ancillary services are available to students who are handicapped or suspected of being handicapped.

VI. Program evaluation is conducted to assure that placement and termination is made objectively and without biased expectations based on sex, race, culture, ethnicity, or exceptionality.

Section F. SECONDARY VOCATIONAL EDUCATION

The statements in this section represent those qualities attributed by vocational educators to successful secondary vocational education programs. The statements may be used by a local agency to review the degree to which it has implemented state guidelines and recommendations.

It should be noted that these statements are a summary of those in the Vocational-Technical Education Services Secondary Program Review self-evaluation questionnaires. A local education agency that wishes to review its vocational programs in greater detail than that presented in this summary document may consider using the Program Review questionnaires as a part of its program improvement and planning process. Details are available from the Vocational-Technical Education Services of the Michigan Department of Education.

I. Administration

A. District Level

1. A Planning system has been established for vocational education.

II. Staffing

A. District Level

1. Qualified personnel are employed to teach and administer vocational programs.

III. Facilities

A. Program Level

1. Vocational programs have adequate and appropriate space and facilities.

IV. Community Involvement

A. Program Level

1. Advisory committees, balanced by sex and race, and composed of appropriate representatives with defined responsibilities, provide advice for the program.

V. Instructional Program

A. District Level

1. Job placement services are provided to students, including options that are nontraditional for their sex..

B. Program Level

1. Vocational programs are competency based.
2. Vocational programs include alternative instructional techniques.
3. Vocational programs have a long-range remedial plan designed to achieve a balanced enrollment of males and females.

Section G. ALTERNATIVE NON-RESIDENTIAL JUVENILE
REHABILITATION PROGRAM

I. Administration

- A. A planning committee, composed of representatives from the schools and juvenile court, has been developed.
- B. A screening policy, describing the procedure and criteria for admission to the program, has been developed by the planning committee.

II. Staffing

- A. The district employs qualified personnel to provide instruction and ancillary services.
- B. The district has clearly defined guidelines regarding staff qualifications and job descriptions.

III. Program

- A. Personnel and services are adequate and appropriate to meet the needs of the students in the program.
- B. The curriculum is designed to meet the educational and social rehabilitative needs of the students.
- C. The program is designed to reintegrate the student into the regular school program and society.
- D. The district has an evaluation plan to measure the program's effectiveness.

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Section I: Measurement Format

The Program Standards of Quality document is designed to be used as a part of a self-assessment. In doing so, there are two notions that should be considered:

First, are the standards desirable? In some cases a district may decide that a particular standard is not appropriate.

Second, to what degree have the standards been attained?

Each standard is defined in terms of processes or components that should be considered as part of the self assessment. The definitions that follow are designed to differentiate the degree to which it is desirable and the degree to which it has been attained on the measurement scale for each standard. It is assumed that responses regarding desirability and attainment reflect an interpretation about both the appropriateness of each standard and the degree to which the standard is present.

Definitions:

High: It should exist or it does exist and include(s) all the major components.

Moderate: It should exist or it does exist and include(s) most of the major components

Low: It should exist or it does exist but include(s) few of the major components

None: Nothing should exist or does exist

DK: Don't Know

Respondents should circle the response that best reflects their perception as to (D) the desirability and (A) attainment of each standard.

The following example shows that the standard has been rated high in desirability and low in attainment.

I. The Learning Environment

- A. A policy states that the educational program includes instruction which promotes equal quality educational opportunities for all students regardless of their culture ethnicity, race, sex, or exceptionality.

(D) H M L N DK
(A) H M L N DK

The Department of Education has program standards documents available, that include the measurement format next to each standards statement, for those who wish to use the material as a checklist.

Section II: Developmental Levels

The main body of this program standards document makes several references to the importance for principals and staff of understanding children's developmental characteristics and knowing what these characteristics imply for program development and instruction. Developmental characteristics/levels and stages refer to the gradual maturation of children in a number of important areas. For instance, according to Thornburg, no specific line separates childhood from adolescence. Rather, there are gradual developmental and learning changes that occur involving the physical, intellectual and social lives of children. "Through such maturation and learning, the well-knit pattern of childhood personality is considerably loosened as youths experience identifying behaviors with other youths, and thus move toward adolescence."

Children in the 10-14 age range experience more change than at any single time other than the pre and post-natal periods. It is appropriate, then, that their developmental stages require further explanation. Thornburg identifies six maturational and learning tasks that occur during this age range: 1) Developing and organizing knowledge and concepts necessary for everyday functioning; 2) Accepting increasing changes in one's physique; 3) Learning new social-sex roles; 4) Developing friendships with peers; 5) Becoming an independent person; and 6) Developing elementary moral concepts and values. (from Herschel Thornburg's article entitled "Learning and Maturation in Middle School Age Youth," from the November 1970 issue of *The Clearing House*, pp. 150-155.) In order to have good schools, administrators and teachers must be aware of developmental stages and gear their programs and instruction to the appropriate level of their students.

Thornburg's list is only one of many. Another resource, developed by the State Board of Education's Task Force on Middle School Education, is a "Position Paper Concerning the Education of the Early Adolescent and Programmatic Implications," approved by the State Board of Education on June 3, 1980.

Section III: Higher Level Thinking Skills

The higher level thinking skills focus on use of knowledge (for example, analysis and synthesis) versus acquisition of knowledge, such as memory and recall. Various taxonomies refer to these higher level thinking skills. The most common, Taxonomy of Educational Objectives, proposed by Bloom, et al. describes levels of thinking in a hierarchical order with each level assuming the preceding level. The higher level thinking skills in this taxonomy include analysis, synthesis and evaluation when they occur in the cognitive domain. When they occur in the affective domain, these same authors refer to them as valuing, organizing and characterizing by a value complex. Other taxonomies identify the same processes but use other terms when describing problem-solving, learning episodes, or moral reasoning.

Section IV: Middle School Program Standards

This part acknowledges the unique organizational and implementation features that are designed specifically to serve the needs of children in the 10-14 year old range. In reviewing this part, the general program standards should also be considered.

- I. The middle school instructional program features a continuous progress organization that allows students to progress at their own individual rate regardless of chronological age.
- II. The middle school program features team planning and team teaching to insure the implementation of interdisciplinary teaching objectives.
- III. The middle school curricular and co-curricular programs should provide physical activities which feature intramural activities, rather than interscholastic activities.
- IV. The middle school operates on a schedule that encourages the investment of time based on educational needs rather than standardized time periods.
- V. The middle school provides every student with a placement in a support group which remains essentially the same during the child's years in school and has a teacher-advisor who works on a regular basis with the group.

Section V: Interdisciplinary Instruction

Interdisciplinary instruction is an approach that emphasizes topics or problem-study approaches which focus on topics or problems such as race, sex bias, beauty, poverty, environment and conflict. These topics or problems do not fit into one subject area, therefore the interdisciplinary approach is one way of providing instruction in areas that span several traditional subject matter areas of study. Interdisciplinary instruction can exist when there is an atmosphere of cooperation and teamwork among teachers from various disciplines and areas of study.

Section VI: Instructional Time

A number of significant research findings have shown that there is a strong relationship between allocated time and achievement. Allocated Time refers to the amount of time that teachers allocate to instruction in a particular content area.

Allocation of time can be established after educational study has resulted in:

- 1) the determination on the part of curriculum makers of a definite list of specific objectives and desirable outcomes for each subject which should be attained by pupils.

- 2) the determination of the quantity, quality, and kind of educational experiences necessary to insure achievement of the specific objectives.
- 3) the determination of the most effective methods of instruction to be employed in presenting these educational experiences in order to secure the expected knowledge, skills, attitudes, and ideals.

A number of research studies have explored the relationships between measures of time on task and outcome measures such as achievement. For these studies, Time on Task is defined as the amount of time a student spends directly on learning tasks that are positively related to student achievement. The task must be directed by the teacher and students must have a high success rate in accomplishing the task.

Acknowledging the difference between allocation of time and time on task is important to any staff development effort that is aimed at improving student learning.

Section VII: The Michigan Life Role Competencies

The Michigan Life Role Competencies is a State Board of Education approved document which provides an overview of the student competencies that professional associations, numerous advisory councils, various referent groups, and the Michigan Department of Education have for all students in Michigan, tenth through twelfth grade. The competencies are based upon the common goal of Michigan Education which defines broad direction and general purpose for Michigan's educational system.

The Michigan Life Role Competencies document identifies four focused areas of life roles:

1. Employability and Occupational Skills,
2. Personal and Family Management,
3. Civic and Social Responsibilities, and
4. Aesthetic and Humanistic Appreciations.

For each life role area noted above, the Department of Education has developed two booklets: one deals with the competencies and performance objectives delineated for that area, and the other with a set of test items to assess a subset of the prescribed objectives.

Section VIII: The Michigan Essential Skills

The Michigan Essential Skills document is a State Board of Education approved document which provides an overview of the student performance expectations that professional content associations and the Michigan Department of Education have for all students in Michigan, the first through nine levels (grade). The expectations are based upon the Common Goals of Michigan Education which defines broad direction and general purpose for Michigan's educational system.

The Essential Skills document identifies ten essential curriculum components of schooling, including communication skills (reading, writing and speaking/listening), health education, mathematics, music, physical education, science, social studies, visual arts, personal interpersonal and social understanding, and career development. The components of the document represent the framework of a balanced education and can be defined in three broad areas:

- a) Providing all students with appropriate opportunities to achieve competence in the eight subject skill areas;
- b) Providing all students with skills to interact successfully with others in personal, interpersonal, and social situations;
- c) Providing a career development foundation for effective functioning in the life roles that students will pursue.

Companion documents that clearly define the essential skills student performance objectives are as follows:

Minimal Performance Objectives for Art Education
in Michigan 1974

Minimal Performance Objectives for Communication
Skills June 1980

Essential Performance Objectives for Health
Education September 1982

Minimal Performance Objectives for Mathematics
July 1980

Essential Performance Objectives for Music
Education in Michigan Winter 1982

Essential Performance Objectives for Physical
Education Summer 1982

Minimal Performance Objectives for Science
September 1981

Essential Performance Objectives for Social
Studies January 1982

Essential Performance Objectives for Career
Development September 1983

Section IX: Migrant Student Record Transfer System

The Migrant Student Record Transfer System (MSRTS) consists of a central data bank located in Little Rock, Arkansas, with terminals in each state providing migrant education programs. This data bank provides a cumulative record of student achievement, as well as important health information, that is used by the receiving school to provide appropriate instructional and health services to the migrant students. The MSRTS data bank also includes information on child accounting from the states providing migrant education and sends it to Congress and the U.S. Department of Education for funding purposes.

Section X: "Variables That Make a Difference"

Introduction

Schools are being called upon to solve more and more of society's problems. Yet, they are criticized and charged that the nation's youth have a generally lower level of achievement than in the past. Rather than accept and believe the critics, the premises of this paper are that schools can and do make a difference, and all children can learn.

There are many schools and school districts where achievement is on the rise. Success stories are not limited to very advantaged populations, but are true of schools representing a wide range of backgrounds—from urban to rural, from rich to poor, and from minority to non-minority.

Much of the research that is conducted by educators and educational institutions has sought to identify those characteristics of schools, administrators, teachers, and students that lead to success rather than failure. The majority of these research findings remain unseen by those most likely to benefit from them: the practitioners out in the field. Techniques for bridging the gap between research and practice must be developed if teachers and administrators are to achieve greater success in helping students to learn. Intervention strategies designed to communicate significant findings must be sought.

The first step toward attaining that goal is the identification of those variables that research has shown to be associated with academic achievement. This paper describes and summarizes a recent, comprehensive examination of relevant educational research material, that was designed to serve that purpose.

The constellation of variables that have been found to affect achievement include many over which we have no control. Socio-economic factors such as parental income or education, despite being related to academic success, are variables we can do little about. The literature review described here has therefore placed primary emphasis upon those variables that are potentially controllable by a school board, superintendent, principal, or teacher.

The literature review focused upon three principal sources: documents catalogued in the ERIC system, recent educational periodicals, and research studies on school effectiveness. The main criterion for inclusion of a study was that it describe data-based research. Empirical studies were collected; opinion pieces were not. The review also includes several articles that were themselves literature reviews of specific topics. Due to the typically large number of studies on which these reviews were based, they were given greater weight in the process of selecting those variables that have a consistent, positive impact on achievement.

The product of the literature review is an annotated bibliography of over one hundred research studies. This bibliography, which includes a brief critique of the methodology used in each study, is available as a separate document.

The remainder of this paper is a brief summary of the major findings of the review. It consists of a series of principles, each focusing on a variable that influences achievement. Each principle is followed by a discussion of the variable. The numbers in parentheses are keyed to articles in the annotated bibliography, for those interested in obtaining more details about particular studies.

Many of the principles may seem intuitively obvious, and much like what common sense would suggest. It is important to remember, however, that what may appear obvious is not always supported by research.

A number of recent critics of educational research have commented that there is no single behavior, or set of behaviors, that a teacher can incorporate into his or her instruction which automatically and invariably lead to achievement increments. The organization of the overview is reflective of this point of view. One should approach this overview with the understanding that many of the principles offered are interrelated, and may only lead to achievement increments if employed in combination. School staff, by employing these principles, can make schools more effective and children will achieve greater learning.

THE MORE TIME SPENT ON INSTRUCTION THE GREATER THE ACHIEVEMENT GAIN.

There is a large body of research supporting the notion that the more time a student spends on a task, the greater the achievement. Instructional time appears to be one of the most significant variables that relates to achievement. Some of the research studies provide direct evidence of the importance of time; for others the evidence is not so direct.

In a global sense, time refers to the quantity of schooling measured over intervals of months, or perhaps a year. Several studies have found, for example, that exposure to schooling as measured by attendance is related to achievement (32, 56, 109). Although some research has failed to find the same link (55), it seems logical to assume that for schooling to have any effect, students must actually be in class.

Once in class, it is important that students attend to the teacher. Studies showing a negative relationship between achievement and the amount of attention paid to the teacher or to an activity illustrate the importance of time in an indirect manner. It is important for teachers to ensure that all students are focusing on the task at hand if maximum learning is to take place.

More direct evidence regarding the importance of time is found in the numerous studies focusing on either "engaged" time (time on task) or "elapsed" time (time from initiation to mastery of a learning unit), both of which have been found to be positively related to achievement (9, 10, 11, 26, 32, 35, 49, 56, 77, 97). In general, the greater the number of minutes spent on instruction of a particular topic, the greater the learning that takes place. Time spent on non-instructional activities such as organizing, doing routine paperwork, or moving students in and out of classes, should be done as efficiently as possible in order to maximize the time available for instruction (3, 72).

One approach to better utilization of time has been found quite successful (9), although there are those that find it effective only for learning specific cognitive materials and skills, as opposed to problem solving tasks (50). The approach is mastery learning, and it involves a reconceptualization of the learning process to focus on variations in the amount of time to attain mastery in a given area (9). Under mastery learning, students take as much personal time, and as much instructional time, as they require to attain a particular criterion. Mastery learning has been shown to result in higher percentages of time on task, and in "learning to learn" more effectively. This technique may also be beneficial because it provides most students with opportunities to experience success, which are very important to students with a history of repeated failure (58). Mastery learning can also be considered a form of individualized instruction, which research also supports as an effective way to increase achievement (5, 29, 72, 84, 104).

One final area of research indirectly related to the element of time concerns the curriculum content actually covered in class. Studies have shown that patterns of test performance are related to differences in content inclusion and emphasis; students learn which is included in the curriculum. A careful matching of the curriculum to the program objectives is important for better attainment of those objectives. In other words, if a particular objective was not met, it may be that no time at all was spent on it in the classroom.

THE GREATER THE AMOUNT OF PARENTAL INVOLVEMENT, THE GREATER THE ACHIEVEMENT.

Research has shown that parents can influence their children's achievement in a number of ways. One factor that consistently relates to success in school is the attitudinal variable usually referred to as parental aspirations or "press for achievement." Children whose parents exhibit a lot of concern for their achievement, and who expect a lot of them, tend to do better in school (36, 57, 58, 69). Parental influence of this kind may be particularly important in the child's early years of schooling (57).

It is not clear exactly how these expectations are communicated to the child. One logical possibility is that the more actively involved a parent is in his or her child's schooling, the greater the likelihood of higher achievement (10). One manner of involvement is through volunteering to work in the school. Research indicates that volunteering to serve as tutors or para-professionals is associated with higher achievement (70, 77).

There is evidence that more active involvement by parents in the home is also effective. Achievement is affected by parents who have been instructed in methods of promoting their children's intellectual development (70), or taught to use "desirable teaching behaviors" (80), such as using overviews when introducing instruction or using verbal reinforcement properly. These approaches have been found effective for low socio-economic parents and children, as well as for those not disadvantaged (70). In addition, contingency management of reinforcement by parents has been shown to increase academic task-related behavior and decrease disruptive classroom behavior (6). Finally, since the amount of time spent on a task is so important for learning, parents can make a contribution simply by supplementing classroom instruction at home, thereby increasing the total time on task (57).

HIGH EXPECTATIONS ON THE PART OF THE PRINCIPAL ARE ASSOCIATED WITH GREATER ACHIEVEMENT.

A number of studies have indicated that principals who have expectations of their students, and who firmly believe that all their students can master the basic academic objectives, tend to be in schools that are successful or improving in terms of achievement (10, 36). These principals place a strong emphasis on the accomplishment of objectives, and are likely to assume responsibility for meeting them.

These principals are assertive instructional leaders, who convey their expectations in part by establishing concrete norms and goals for both teachers and students (10, 104). They also formulate procedures for the evaluation of the achievement of the basic objectives (98), such as reaching an agreement with teachers on achievement outcomes and standards (79), or establishing formal accountability procedures (10). Principals may also express their commitment in less direct ways, such as by making more classroom observations (56), or by providing more teacher inservice to ensure that the staff has the skills necessary to maintain the high standards promoted by the principal (11). Inservice may be particularly effective since there is evidence that regardless of the principal's attitudes, greater amounts of inservice are associated with greater program success (77).

HIGH TEACHER EXPECTATIONS ARE ASSOCIATED WITH HIGH ACHIEVEMENT.

The verdict is still out on whether or not student behavior and achievement can be significantly influenced by the expectancy a teacher has about an individual student. A number of studies have indicated that teachers' perceptions of students tend to be quite accurate, and are based on past student behavior (14, 48). Studies in which teachers' expectancies are experimentally manipulated continue to show mixed results (18, 53, 66, 81, 108).

Research has shown, however, that teacher expectations of a more global nature do seem to positively affect students (10, 89, 104). This outlook consists of a belief on the part of the teachers that all of their students are able to master the basic objectives; that all have the ability to succeed. This generally high expectation is accompanied by a feeling that they, as teachers, do make a difference. As a result, there is a tendency for these teachers to make a stronger commitment to teaching, to place more emphasis on the importance of achieving goals, and to assume more responsibility for students' learning. Teachers who do not share these high expectations are more likely to feel they can't have much impact, and therefore place the responsibility for learning on the students themselves, offering them

little hope or encouragement for higher achievement (11).

While a direct link between teacher expectancy and student behavior is not yet established, there is evidence that students are at least aware of their teachers' perceptions of them (36, 48). A generally positive attitude toward achievement should therefore be communicated to the students.

One manner in which this global expectation can be expressed is through the establishment of specific, concrete, and perhaps difficult, goals (11, 87, 103). Higher achievement expectations may also be expressed by assigning more homework to students (40). Studies in areas other than teacher expectancy have also found that greater use of homework is characteristic of more effective teachers (26, 11, 89).

**HIGHER ACHIEVEMENT GAINS ARE MORE LIKELY TO OCCUR
IN CLASSROOMS CHARACTERIZED BY A HIGH DEGREE OF
STRUCTURE, WITH TEACHERS WHO ARE SUPPORTIVE.**

A large body of research has indicated that structure in a classroom is beneficial. Structure is manifested in several ways. To a large extent, structure refers to goal direction (97)--to the establishment of goals that are made very clear to the students, perhaps in the form of specific performance objectives (98). The extent to which the classroom is organized, efficient, and well-managed is another form of structure. Time spent "setting up" for an instructional activity should be kept at a minimum (3).

Structure is also expressed in the amount of supervision that takes place in the classroom. Although there is little to support the idea that strict, autocratic teachers are the most successful, there is evidence that says that supervision or monitoring of behavior (such as students' seat work) is helpful, as is minimizing the amount of free time the students have. This appears to be especially true for students in low socio-economic schools (39, 85). Supervision of this kind is also important because it enables the teacher to ensure that all students are involved in the classroom activities, and are engaging in on-task behavior as much as possible (40, 89, 105, 111).

One final aspect of structure that appears to be important is concerned more with specific instructional activities. Research indicates that the presentation of both advance and post cognitive organizers facilitates both learning and retention (1, 2, 41, 61, 63). Organizers often take the form of overviews focusing on the skills required for a task, or reviews of material previously presented. Both oral and visual organizers appear to be effective. The importance of establishing a clear goal direction does not imply that the teacher should be rigid in his or her approach to instruction. On the contrary, teachers should be open and flexible (97), and should be accepting of ideas offered by students (92). Other behaviors associated with an open approach are also important. These include being supportive and encouraging, being verbally positive in class, having patience, and having a willingness to develop warm relationships with students (14, 17).

In sum, a warm supportive teacher who is able to provide supervision and clear direction toward the achievement of clearly stated objectives, should produce notable achievement gains for the class.

THE USE OF POSITIVE FEEDBACK OR REINFORCEMENT BY TEACHERS IS ASSOCIATED WITH GREATER ACHIEVEMENT.

Research indicates that teachers who are successful in raising the achievement levels of students tend to use a higher rate of praise and encouragement (17, 32). Negative teacher contacts, such as criticism, have been found to relate to lower achievement (46). Praise is usually given verbally, though positive, written feedback is also helpful, particularly with low achievers (16, 25, 105).

It is important not to use verbal praise or other forms of positive reinforcement either too much or inappropriately (11, 40). Research indicates that, if praise is used indiscriminately, it may confuse the students, and have no impact on achievement. For example, if a low-achieving student is praised for getting two of ten items correct on a test, he may come to feel that it is acceptable to score at that level. If two items correct is an improvement for the student, he should be positively reinforced, but reminded that there is a need for further improvement. Also, indiscriminate use of praise may undermine teacher support. That is, the student may come to feel that any response he offers, whether appropriate or inappropriate, will be met with the same insincere praise. Thus, achievement is most likely to be fostered when accurate feedback is given in a positive manner.

THE USE OF TUTORING IS RELATED TO ACHIEVEMENT.

Research has revealed that tutoring, whether by adults, older students, or same-age peers, can be an effective way to bring about better achievement (7, 34, 47, 52). One possible reason for its effectiveness, at least for black students, is that it builds on cultural strengths, such as the concept of the extended family (47). Tutoring groups modeled after family interactions, in which older children help younger ones with their homework, have been successful.

A second possible explanation for its success is that the superior quality of instructional time in the one-to-one tutoring situation produces greater achievement gains (7).

RECITATION PROMOTES GREATER ACHIEVEMENT GAINS, AND THE USE OF "FACTUAL" QUESTIONS IN CLASS IS ASSOCIATED WITH GREATER ACHIEVEMENT.

Several studies have found that recitation (generally defined as response by a student) can be an effective means of promoting both the acquisition and retention of knowledge (3, 19, 33, 77). The ability to respond to questions, either orally or in writing, at a higher cognitive level, has also been linked to increased recitation (33). There is, however, some evidence that the knowledge acquired and retained tends more often to be that of the curriculum content actually "rehearsed" by the recitation questions, rather than content not rehearsed. In other words, it is advisable to ask questions and elicit responses about any piece of information one particularly wishes the students to learn.

There is some indication that the beneficial influence of recitation on achievement is a result of the opportunity provided the teacher to monitor students' understanding, to provide feedback, and to adjust the lesson plan accordingly (3). Recitation therefore may be most effective when used by teachers with good managerial skills.

Although the results of research on the use of "factual" versus higher cognitive questions are somewhat mixed, the evidence appears to be in favor of the factual variety (19, 26, 33, 85, 103, 110). A factual question is one which calls for the student merely to recall verbatim or in his own words materials previously read or taught by the teacher (110). Higher cognitive questions require students "to state predictions, solutions, explanations, evidence, generalizations, interpretations, or opinions" (33). Research also suggests that factual questions may be more effective for lower ability students (85, 103). It is not clear why the use of higher cognitive questions is ineffective. One possibility is that the key variable is simply recitation, particularly from children of low ability. An alternative explanation is that the use of factual questions establishes an environment similar to programmed learning, whereby students acquire and build on small, discrete 'links' in a 'chain' of learning.

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