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The Development Of A Replicable Model For Implementation Of A High School Minimum Competency Program

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THE DEVELOPMENT OF A REPLICABLE MODEL FOR IMPLEMENTATION OF A HIGH SCHOOL MINIMUM COMPETENCY PROGRAM

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1972 to present:	Principal, Eldorado High School, Las Vegas, Nevada.
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1973	President, Nevada Association of Secondary School Principals.
1971	President, Clark County Association of Secondary School Principals.
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THE PROBLEM DEFINED

I. INTRODUCTION

"Back to the Basics", the most recent trend in education, has influenced most of the school districts in the United States. Education U.S.A. reported that by 1978 at least thirty states had adopted some type of competency-based education and local school districts, either by mandate or their own initiative, have joined the competency movement (37, 1978, p. 8).

Competency testing is not a new phenomenon. Training of youth in survival skills was a prominent feature in primitive societies and competency in oratory was a basic goal of education two thousand years ago (66, 1978, p. 7).

Examples of the early use of competency measurement are the New York State regents' examinations, available in twenty-five subject areas and in use for over one hundred years (66, 1978, p. 7), and the Proficiency and Review Test which has been administered in the Denver Public Schools since 1959.

A massive national effort, the National Assessment of Educational Progress was begun in 1964 under a grant from the Carnegie Corporation and was the first systematic answer to the century-old charge given to the United States Office of Education to establish the nation's progress in education. Hundreds of scholars and other experts

have combined to complete the National Assessment, which has examined more than four hundred thousand different young Americans selected from four age levels--9, 13, 17, and 26-35. Results were classified according to region of the country, sex, race, parental education, size and type of community. Seven learning areas formed the basis for the assessment: science, citizenship, writing, reading, literature, music, and social studies. By 1975 the first results were analyzed and presented to the public (49, 1975, p. 1 & 26).

The National Assessment and the reported decline in the American College Test scores have combined to generate public unrest and a reluctance on the part of the taxpayers to support public education without some measure of accountability (66, 1978, p. 26).

In Florida, students did poorly on functional literacy tests and failure among minority students was disastrously low. Minority organizations questioned the validity of the tests and the efforts of the school system to meet the needs of all students (96, 1977, p. 22).

Competency testing is not new to the State of Nevada. The State Department of Education developed and administered examinations beginning in the early 1900's. Students were required to meet established standards to graduate from eighth grade and enter high school. The eighth grade examination continued to be administered until the early 1940's when the testing was replaced by State mandated course and credit requirements for high school graduation (16, 1976, p. 2).

During the 1977 legislative session, six bills were introduced

which mandated standards for minimum competency. Assembly Bill 400 survived the debates and was enacted into law. The subsequent Nevada Revised Statute 389.015 mandates competency testing in reading, writing, and mathematics before completion of grades 3, 6, 9 and 12 and requires remediation for those who cannot pass the required tests. The law also provides:

> . . . if a student fails to pass the high school proficiency examination administered before completion of grade 12, he shall not be graduated until he is able, through remedial study, to pass that examination, but he may be given a certificate of attendance in place of a diploma, if he has reached the age of 17 years (68, 1977, p. 13275).

Development of competency tests and the design of a minimum competency program at Eldorado High School, Las Vegas, Nevada predates legislative action. The National Association of Secondary School Principals' publication, Competency Tests and Graduation Requirements (14, 1976, p. 63), made reference to the mathematics competency test developed at Eldorado. Juniors who could not pass the test of basic skills in mathematics were required to enroll in a mathematics course specifically designed to provide remediation of basic skills.

The minimum competency program at Eldorado High School was expanded to include those areas mandated by NRS 389.015--reading, writing, and mathematics. Specialized programs involving diagnosis and prescription to remediate identified deficiencies were designed and implemented. The law assigned the responsibility to develop test instruments to the State Department of Education and administration of the tests to the Board of Trustees of each local school district. Full implementation of the law will begin with the graduating class of 1982.

Students must demonstrate proficiency in reading, writing, and mathematics to qualify to receive a diploma upon graduation from high school.

II. PURPOSE OF THE PROJECT

Since 1977, Nevada Revised Statute 389.015 has mandated that students must be tested for proficiency in reading, writing, and mathematics before completion of grades 3, 6, 9 and 12. Individuals who cannot demonstrate minimum competency will be required to participate in remedial instruction. The law further provides that those who cannot pass the prescribed level of competency during the twelfth grade testing will be denied a high school diploma.

It is imperative that adequate programs for testing and for remediation are established to insure that every student has an unimpeded opportunity, within the limits of individual capability, to qualify for a diploma which will signify at least minimum levels of achievement in basic skills. The design and implementation of such a minimum competency program is a long and difficult process requiring imagination and skill.

Standards for minimum competency have been the subject of wide debate. Some educators reject the entire notion of minimum competency testing and remediation while others would eliminate all but the basics and remove all so-called "frill" courses except reading, writing, and mathematics.

The controversy also extends to testing. Widely used

normative-referenced tests have been criticized for being discriminatory and for failure to identify specific student skill deficiencies. The newer and less well developed criterion-referenced tests remain to be proven as effective measures.

The purpose of this project was to identify the elements of a reliable program for testing and remediation of basic school skills in reading, writing, and mathematics and to design such elements into a program for implementation of a minimum competency program at the high school level to insure that every student has the opportunity to qualify for a diploma upon graduation from high school. In the development of high school minimum competency programs, it was necessary to study student achievement and the needs of the students, establish objectives to be reached and determine standards for minimum competency in reading, writing, and mathematics and to design imaginative remedial programs for students who could not achieve minimum competency through normal classroom instruction.

III. IMPORTANCE OF THE PROJECT

Nevada Revised Statute 389.015 requires establishment of minimum competency programs in reading, writing, and mathematics. A model program for testing and remediation could provide a guide to expedite implementation of a state-wide program and help avoid problems in program design and implementation.

As indicated earlier, several years of study have been invested in the development of a testing and remedial program in

reading, writing, and mathematics at Eldorado High School. Eldorado's efforts in providing early leadership in the development of testing and remediation was noted by the National Association of Secondary School Principals in one of the first publications devoted to competency-based education (14, 1976, p. 63).

In anticipation of NRS 389.015 the Eldorado Program began with the design of a criterion-referenced mathematics test administered first to high school juniors. Students who could not demonstrate minimum competence were required to complete a remedial mathematics course during the senior year. A criterion-referenced mathematics test was eventually administered at the end of the eighth grade and students who failed to demonstrate minimum competency in basic mathematics were scheduled into a mathematics laboratory. The mathematics laboratory provided diagnosis and remediation of skill deficiencies. Students received high school elective credit for successful completion of mathematics laboratory and could enroll in the mathematics course required for graduation only upon successful completion of the minimum competency requirements.

A similar program in reading and basic English was also developed. Special placement techniques assured proper remediation of English and reading deficiencies in remedial courses.

The ultimate goal of the Eldorado minimum competency program was to design and administer special criterion-referenced tests for all of the courses required for graduation from high school in the State of Nevada. If a course is required by the State for graduation,

a student should be required to demonstrate minimum competency in that course.

Nevada high school graduates, beginning with the graduating class of 1982, will be required to demonstrate minimum competency in reading, writing and mathematics to qualify to receive a standard diploma. The primary objective of the development of a high school minimum competency program (including diagnostic testing, appropriate placement, and remediation of identified skill deficiencies) was to insure that all students, within the limits of capability, have the opportunity to fully qualify for a high school diploma; further, that award of the diploma distinguishes the graduate as a person who has mastered the identified competencies and has been at least minimally educated.

IV. STATEMENT OF THE PROBLEM

The design of this project seeks to answer the question: What must be done to develop and implement a high school minimum competency program in reading, writing and mathematics to insure that every student is afforded the opportunity to qualify for a diploma upon graduation from high school in compliance with NRS 389.015, the minimum competency law in the State of Nevada.

Program development involved a complete analysis of the achievement of each student based upon study of normative-referenced test scores and criterion-referenced test scores, appropriate placement of students with identified skill deficiencies

into specially designed remedial courses, and the proper remediation of those identified skill deficiencies in basic subjects--reading, writing and mathematics.

Normative-referenced group achievement tests and Standardized Achievement (Intelligence) tests administered to high school students were studied to aid in the determination of program needs and for evaluation of the curriculum related to minimum competency. Program development, during the design of the minimum competency project, was monitored through analysis of normative-referenced group testing results which utilized the Iowa Test of Educational Development and the California Achievement Test battery.

Locally developed and selected commercially available criterion-referenced tests were utilized to aid in the placement of students into remedial courses, identify specific basic skill deficiencies to be remediated, and validate attainment of specified high school minimum competencies in reading, writing and mathematics at the conclusion of instruction.

A specially designed student placement profile was used to aid in the establishment of students in the proper remedial program and to help identify specific skill deficiencies requiring remediation.

Teacher inservice was an essential feature of the minimum competency program design, as was extensive articulation with feeder junior high schools. Emphasis upon establishment of goals and objectives related to minimum competency, identification of

students requiring remediation, development of teaching strategies and methodologies, and the design of specialized instructional materials for use in the minimum competency program was of the greatest importance in the teacher inservice program.

In the process of the investigation of the elements involved in the design and implementation of a high school minimum competency program in reading, writing and mathematics the following areas were explored and studied:

A. The background for the implementation of the minimum competency program at Eldorado High School, Las Vegas, Nevada.

B. A review of the literature related to minimum competency education.

C. Analysis of the problems relating to the establishment of a high school minimum competency program.

D. Establishment of goals, objectives and standards, and the development of materials required in the implementation of a high school minimum competency program in reading, writing and mathematics.

E. Implementation of the high school minimum competency program.

F. Evaluation of the various elements of the high school minimum competency program.

G. Dissemination of information about the high school minimum competency program.

V. DELIMITATION

The study was limited to the design and implementation of a minimum competency program in reading, writing, and mathematics at the high school level in order to comply with the conditions set forth in NRS 389.015, the law mandating proficiency testing and the remediation of students.

The program was confined to the study of students, faculty, and parents within the community served by Eldorado High School, Las Vegas, Nevada.

VI. ASSUMPTIONS

A. NRS 389.015 mandated that beginning in 1982 Nevada high school graduates must demonstrate minimum competency in reading, writing, and mathematics to receive a high school diploma.

B. The Nevada State Department of Education must establish testing procedures and the various local school districts must conduct such testing.

C. Normative-referenced standardized achievement tests will be utilized until more appropriate criterion-referenced tests can be developed and made available for administration.

D. Programs for testing and remediation will be required in every high school in the State of Nevada.

E. Eventually, there will be mandated minimum competency requirements for all courses required by the State of Nevada for high school graduation.

F. A model for implementation of a minimum competency program for high schools will be useful to school personnel who are under mandate to establish minimum competency programs.

VII. DEFINITION OF TERMS

Basic Education:	Thought to be essential--fundamental--such as reading, writing, and computation.
Basic Skills:	Usually reading, writing and mathematics. Used in both school and life and, therefore, "basic".
Competencies:	School skills and/or life skills.
Competency:	Having the ability to demonstrate school or life skills.
Criterion-referenced Test:	A test that is deliberately constructed to yield measurements that are directly interpretable in terms of specific performance standards (14, 1976, p. 2).
Deficiency:	Inability to demonstrate essential school or life skills.
Functional Literacy:	Ability to read and write at a minimum level. The level is sometimes set at fifth grade.
Minimum Competency:	The lowest acceptable level in school or life skills.

Minimum Competency Test:	Designed to measure mastery of a set level of proficiency or competency.
Normative-referenced Test:	Standardized achievement survey tests designed for normative interpretations (14, 1976, p. 2).
Proficiency:	See "Competency".

VIII. FEASIBILITY

NRS 389.015, which mandates standards for minimum competency testing and remediation for students who fail to achieve minimum competency, made it logical to design, implement, and evaluate the minimum competency program in the high school setting where the diploma is awarded. The development of a realistic and valid program for minimum competency testing and remediation required years of study and analysis preceding actual implementation.

The program used in Nevada high schools must be validated in the high school setting by school personnel, parents and students. This should occur before the diploma is denied for failure to demonstrate minimum competence. The resources and personnel required for program development were readily available in the normal high school setting. The establishment and actual implementation of a minimum competency program in a high school was the most valid measure of the worth of the program in meeting the needs of Nevada's high school students.

Chapter 2

REVIEW OF RELATED LITERATURE

I. INTRODUCTION

The New York Times compared the results of five major studies of the factors that are generally believed to influence student achievement and concluded that "research says little about what makes a school good" (41, 1977, p. 1 & 14). The factors studied were such things as: class size, school population, teacher experience, teachers' race, teachers' salaries, per-student expenditures, school facilities, and student heterogeneity. The results of over one hundred research studies generated the same conclusion reached by Ernest L. Boyer, United States Commissioner of Education: "The only constant in educational research is the continuity of ambiguity" (41, 1977, p. 1 & 14). Part of the problem is certainly the lack of stated goals for education.

Mass public education has produced a wealth of critics. Everyone who has attended school is an expert on education. Too many of these so-called experts base their views on personal feelings and supposition. These critics talk of "the good old days" and assume that children are not learning in our modern schools. Educators are advised that it is time to return to the basics, but to this date no one has really described the basics. There has been a great deal of

confusion in education. Even the so-called experts cannot agree on the direction education must take to be successful in the lives of children. The appropriate time for clear and positive directions to be established has arrived. Without this direction and a corresponding restoration of public confidence, education may be doomed to flounder in indecision.

The National Association of Secondary School Principals has taken a leadership position in establishing goals and objectives for education. A 1975 publication, This We Believe, sets forth a definitive statement on secondary education as seen through the lens of experience by a task force of seven practicing school administrators. The conclusions reached by the task force concerning high school graduation requirements have been adopted by the National Association of Secondary School Principals:

> The Association believes that graduation from high school serves in American society a number of functions. A diploma provides some assurance to the state that a new generation is equipped to assume the responsibilities of citizenship. The diploma gives parents and friends a sense of pride and progress. It furnishes employers and college officials with an indication of maturity and achievement. It renews the commitment of teachers and administrators. And, for youth, it represents not only a feeling of accomplishment but also it opens the final and most sacred door to adulthood . . .
>
> The Association believes that the criteria for a high school diploma should be distinctive, representing an accomplishment independent of higher education or the world of work. A diploma should not necessarily mean that the holder is prepared for a job. Nor should it particularly signify that the holder is ready for college. Rather, a diploma signifies that the student is sufficiently prepared to assume the responsibilities of adulthood . . .
>
> The Association believes that qualification for the high school diploma, therefore, should include verification by course and by competency. The use of both approaches strengthens

> the measurement process and adds authenticity to the diploma. Competency measures should be used to evaluate skill proficiency. Credits should be issued to document completion of courses and programs. Together they make the evaluation picture complete (86, 1974, p. 40).

The Association has established criteria for the awarding of the high school diploma as follows:

(1) As verified by competency measures--

a) Functional literacy in reading, writing, and speaking,

b) Ability to compute, including decimals and percentages,

c) Knowledge of the history and culture of the United States, including the concepts and processes of democratic governance.

(2) As verified by units or credits--

a) Successful completion of semester units equal to a normal student course load extending through the first semester of the senior year,

b) Sufficient attendance in courses and programs to gain fully the educational and social benefits of group situations (86, 1975, p. 43).

It is expected that most graduates will far exceed the basic requirements as set forth by NASSP. No exceptions should be made to these base line requirements for the diploma.

The competency movement now in full swing in the United States has attempted to develop educational plans which insure that every student has the opportunity to obtain a valid diploma upon completion of high school.

II. THE ACCOUNTABILITY MOVEMENT

Just as "innovation" was a term of the 60's, "accountability"

was a term of the 70's. Ralph Tyler states:

> Three recent developments seem to have influenced the current emphasis and concern with accountability: namely, the increasing proportion of the average family's income that is spent on taxes, the recognition that a considerable fraction of youth are failing to meet the standards of literacy now demanded for employment in civilian or military jobs, and the development of management procedures by industry and defense that have increased the effectiveness and efficiency of certain production organizations. These developments have occurred almost simultaneously, and each has focused public attention on the schools (54, 1971, p. 1).

We have passed from a time when schools could receive their support almost entirely from the local property tax to a time when a larger share of the tax must be borne by people from their personal income. Schools have been asked to justify increased budgets by demonstrating greater educational responsibility. The taxpayer revolt against higher taxes and corresponding decline in the achievement of students produced a demand for accountability. As bond issues failed and legislatures received pressure to reduce taxes with new laws (such as Proposition 13 in the State of California and Proposition 6 in Nevada), educators scrambled to design programs for accountability.

The concern was for the development of an educational system with zero rejects which would guarantee the quality of educational outcomes just as industry guarantees the quality of industrial production. Lessinger (54, 1971, p. 8) defined functional literacy as the attainment of more than a fifth grade education. He charged that there are some 30,000 functional illiterates in the country today (1971) who hold diplomas. This has led some of the public to the inevitable conclusion that the high school diploma is worthless.

One of the foremost preoccupations in the accountability movement was the setting of standards. Straubel (92, 1971, p. 43) concluded, "Legally and ethically, one can be held accountable for his actions only if he knows in advance what those actions might involve." Straubel cites Lessinger (92, 1971, p. 43) who said, "The fact that many results of education are subjective and not subject to audit should not deter us from dealing precisely with those aspects of education that lend themselves to precise definition and assessment." Straubel further pointed out the parallels between the Air Force training for skills and civilian jobs as being as high as 90 percent and holds the Air Force up as a model for public education to follow. The Air Force materials were based upon criterion-referenced evaluation rather than normative-referenced tests, and were based upon pre-determined and specified performance objectives. Straubel concludes that the school system can be accountable to the learner only if it is accountable to the user--employer. This was lamentable in light of the fact that American industry has been forced to spend millions of dollars teaching basic skills to public school graduates in addition to what they spend on teaching specialized skills. Industry has paid twice to get the job of education done: once in tax support of public schools and again in support of their own schools which were required to remediate deficiencies in employees.

Most of the demand for accountability, according to McComas (58, 1971, p. 31), came from pressures applied from without. The necessary changes in education have been forced upon educators and did

not occur as a result of leadership from within the profession.

Even the President of the United States expressed concern about accountability as noted in his address to the Congress in March 1970 where he stated, "Let us experiment and prove what the schools can do before we invest in them" (23, 1971, p. 36).

Regional and federal agencies have exerted control without regard to expenditure of money. Accountability must be utilized as the means of improvement. Deck (23, 1971, p. 36) pointed out that schools had special organizational problems which had to be solved. Foremost was goal ambiguity which also promoted the unmeasurability of results. Second was input variability, that is, clients with wide variation in ability and need. Third, vulnerability--education was subject to control and criticism from many sources. Fourth, education has always had lay professional control problems. Somehow, these problems must be solved and accountability procedures established which are consistent with expected outcomes.

Kaufman (50, 1971, p. 22) suggested some tools to be used in establishing accountability. The need to audit education was obvious as was a method for systems analysis crucial to a systems approach to solving the problems in education. Additional suggested tools to aid in establishing accountability included the use of a needs assessment, establishment of behavioral objectives, PPBS (planning, programming, budgeting systems), method-means selection techniques, PERT (Program Evaluation Review Techniques), and other related network-based management tools. A system for testing and assessment must also be

established. Kaufman further suggested an integration model for all the tools used in the measurement of the improvement of education, and the establishment of a professional role and responsibility for educators. Accountability is here to stay and the task of educators is to establish "accountability for what" as the most important question to be answered.

The need for reform in education to bring about accountability to the public was cited by Duncan (26, 1971, p. 27). The accountability must include all components involved in the educational program. Duncan also contended that we must relate expenditure of dollars to results in the educational program. Education must be in the forefront in training managers, who must be real managers and not just elevated teachers. Duncan (26, 1971, p. 29) summarized the right areas which must be satisfied if accountability is to be accomplished:

A. Adequate accounting systems.

B. Adequate personnel systems.

C. Comprehensive planning mechanisms at all levels.

D. Enlightened leadership from educational managers at all levels.

E. Improved delivery systems harmonizing with federal, state, and local goals in delivering quality education.

F. Ability to research and evaluate ourselves without fear of being wrong.

G. A mechanism to eliminate built-in traditional programs and teachers and administrators that will not seek relevancy.

H. Drastically change training programs for administrators to include:

1. financial management and accounting
2. theory of organization
3. state, local and federal government
4. school law (more than one course)
5. clinical internship for 9 months with residence credit
6. dissertation studies that are useful to educational agencies.

Henson (44, 1974, p. 250) defines accountability as "The ability to deliver as promised", or, in educational terms, " . . . a means of holding an individual or group responsible for the level of performance or accomplishment for specific pupils." Schools, he observes, could operate as efficiently as business if each system, school, and teacher could be held accountable for their own level of performance. Full accountability is generally opposed by teacher organizations, but the American public, according to the Gallup Poll, favors performance contracting. The feeling of the public is "no results, no pay."

Henson has compiled a list of interesting pros and cons for accountability:

PROS	CONS
. Clarifies objectives of teaching.	. Primarily concerned with cognitive.
. Student knows what he's working toward.	. Does not account for differences in potential.
. Helps teacher become organized.	. Results in teacher being concerned for own welfare, not students'.

. Subject content and activities selected by experts.	. Lesson content determined by outsiders.
. Identifies excellence in teaching.	. Used by system to economize.
. Places student in an active role.	. Content orientated.
. Exposes incompetent teachers.	. Can be misused by administrators.
. Curriculum decisions will become topic of conversation by all teachers.	. Curriculum decisions will not be made locally.
. Provides time for teachers to plan creative activities.	. Limits gain to teacher-set objectives.
. Has so much thrust that it will result in significant improvement in education.	. Is another utopian fad.

Potential gains will be limited by the skills possessed by its users. Positive or negative results will depend upon the school district, their administrative and management skills, and their desire to change.

Johnson and Bloom (48, 1971, p. 49) agreed that 95 percent of students can master what we teach them. Teachers who are accountable make the assumption that teachers cause learning and that if a learner fails, it is the teaching that has failed. This is most apparent where faculty members are finding ways to (1) Specify their instructional objectives in measurable terms, (2) Devise a variety of tests to determine if objectives have been met, (3) Design replicable instructional materials to achieve specified outcomes, (4) Gather evidence of the extent to which objectives are being accomplished, and

(5) Revise instructional strategies until their objectives are achieved.

There are certain accountability procedures which can be implemented. Teachers must do a variety of things to improve the specifications of objectives. Teachers can improve instruction through selection of criterion measures. Teachers can employ a number of procedures to improve the organization and sequence of instruction. Teachers can use procedures to improve the revision and refinement of instruction. Finally, teachers can improve instruction by changing certain institutional practices.

An inescapable facet of accountability is measurement. A great deal has been written about tests and their value in education, but the accountability movement has brought new emphasis on testing. Educators are discovering that a great deal of work remains to be done if proper evaluation is to be accomplished.

Testing has certain limitations. Tyler (100, 1971, p. 12) observes that typical achievement tests rank students on a line from the most proficient to the least proficient in the particular subject. Questions that can be answered by most or few students are eliminated. The test in final form has questions that 40-60 percent of the students were able to answer. Few of the questions measure what is being learned by the very slow or by the very fast students. These same tests are used to provide norms. The tests are used to measure different students from various backgrounds and from schools using different learning methods and standards, yet, the results are used to

determine how effective schools are. New tests are currently being designed to measure specific subject areas and individual pupil achievement. These criterion-referenced tests measure student achievement, not population norms, and allow educators to determine how well the student has learned in the specific subject area being tested. The National Assessment of Educational Progress uses the more modern criterion-referenced tests and provides a base of data concerning pupil achievement in the United States.

It is essential that pupil evaluation using criterion-referenced testing include pre- and post-test information in order to establish a true perspective of each child's progress.

At an Educational Testing Service sponsored conference on testing in New York, Leon Lessinger (81, 1969, p. 2), Associate Commissioner of Education for the United States, observed, "The public is more interested in what children are learning, not the method by which they are taught." Accountability is the focus of today's parent interest. If schools are to be accountable, objectives must be clearly stated before instruction. There must be proper tests to measure the attainment of objectives. Instruction must include useful verbal knowledge and not judgment, reasoning, imagination or creativity. Tests should measure specific abilities, not behavior. Subject matter and content should provide a store of useful knowledge. Ebel (81, 1969, p. 2) believes that, "The schools should direct their efforts toward increasing cognitive competency, developing resources for effective behavior, and providing useful knowledge in various

important subjects."

Bhaerman (9, 1971, p. 62) disagrees with the advocates of accountability. He claims that those who favor accountability ignore certain important questions about education, such as, What is the major function of the school? In light of the major function, what should the results be? What are the kinds of student learning which should be stressed? In short, what should students learn? What about social orders? Should the school build a new social order? What about accountability for those who teach social unrest as being necessary? Accountability in education amounts to training. What about the other aspects of education? Should the vocational or reading teacher be as equally accountable as the history teacher? Who shall live and who shall die in accountability? Can industry dictate educational standards when they are untrained to do so?

Speaking for the American Federation of Teachers, Bhaerman insists that seven questions concerning accountability must be answered. Can the advocates guarantee that performance contracting will not take the determination of educational policy out of the hands of the public? Can advocates say that performance contracting does not threaten to establish a monopoly in education? Can advocates convince teachers that performance contracting does not dehumanize the learning process? Do advocates believe that performance contracting will not sow seeds of distrust among teachers? Can advocates rationalize that performance contracting will not subvert the collective bargaining process and reduce teacher participation? Is

performance contracting educationally sound?

Speaking for the children, Bair (5, 1971, p. 40) contends that "There is a union or association to protect everyone but the pupil." The responsibility for accountability and for providing the leadership in setting standards is the obligation of the various state departments of education. Bair feels that educators can continue to grope and to innovate with the imprecision of the past or else can refuse now to promote students; new educational programs must also be developed until clear goals are established, and ways to measure accomplishments of those goals achieved. The necessary means involves a complete reorganization of the state departments of education through the destruction of the empires that maintain the status quo without demonstrated benefit to children.

Much of the criticism associated with accountability is directed toward educators. Deterline (24, 1971, p. 17) says that, "The distinction between training and education is: when we know what we are doing, that's training; when we don't, that's education." Training courses have avoided accountability because no one has followed up to see if the training really accomplishes established goals. This is not realistic in terms of what is expected in business today. There is accountability in practically every field except the educational field. One prominent educator, Lessinger (55, 1971, p. 12) points out that doctors who kill half their patients get drummed out of medicine by their peers, or attorneys who lose cases have no clients--that is true accountability.

Educators have refused to produce proof of results. Twenty-five to fifty years ago when a student didn't achieve, he simply dropped out of school and got a job. Only a few--the satisfied customers--remained in school. At present, most young people are in school. The diploma has become a minimum requirement for most jobs and to enter any form of advanced training. Lessinger (55, 1971, p. 11) says, "Independent, continuous and publicly reported outside review of promised results of a bureaucracy promotes competency and responsiveness in that bureaucracy." He calls the foregoing the Principle of Public Stewardship Through Accountability.

According to Deterline (24, 1971, p. 15), as in the Peter Principle, people tend to be promoted out of jobs they do well and eventually end up in jobs they don't do well; therefore, there is no reason to promote them. Failures and ineffective aspects of instruction are slyly laid on the students in the form of a grade or rating. Educators really never have to face the facts of their own incompetence in the field of instruction. Educators assume the teacher to be a subject matter expert and expect the teacher to sit down, without training, and write expert lessons or design a course. The teachers' lack of instructional skill is replaced by preparation of barrages of material--information to present to students. How do educators decide what information to present? Intuition from teachers' own experience. And what measure do teachers use to determine how much has been learned? Time. Time, not proficiency, determines when the course is complete and if credit is to be granted.

The State of Florida has been a leader in accountability. Educators in that state have sought to answer two basic questions: (1) What do we expect from our schools? and (2) What is required in terms of financial support and legal directives to assure that schools will live up to our expectations? Daniel (22, 1971, p. 41) outlines the thesis of the Florida plan which includes: (1) Accountability, (2) Systematic Planning, (3) Individualization, and (4) Strengthening Competencies of Teachers. Accountability models like Florida are built upon accountability for teachers. Yet how can teachers be held accountable when they have virtually no control over resources?

Garvue (35, 1971, p. 34) contends that nine important questions must be answered before accountability can become a reality: Who initiates accountability? State, local, region, or Nation? Where does accountability begin and end? Local, state of National? Can we only measure the cognitive? What about the affective? Who is the independent auditor? Can a standardized bookkeeping system for fiscal accountability be devised? Public education requires 6.6 percent of our Gross National Product--what about accountability for the 93.4 percent under comparable systems of accountability? Can we effectively establish PPBS without the tendency to use machinery prior to establishment of goals? Can fiscal accounting and control allow for flexibility in the use of resources? Can decision makers delegate authority to those who will be held accountable? Teachers, principals, and students?

Cox (20, 1977, p. 761) defends teachers and believes that it is

unfair to hold educators accountable for factors they cannot control. Application of accountability principles tends to escalate concern for easily measured results, therefore, it is important to clarify the responsibilities of teaching, so that school professionals may be judged fairly by their peers and clients.

Ernest Boyer (82, 1977, p. 52), United States Commissioner of Education, gives this explanation about teacher accountability:

> I've always felt that assessing a teacher's performance is an appropriate goal, but I'm anxious about the use of tests as a vehicle for measuring a teacher's ability. There is a degree of correlation between good teaching and the outcomes of written exams, but there is not a neat, absolute overlap. Some outcomes of good teaching don't immediately show.

According to Sanoff (82, 1977, p. 52),

> The belief that the public schools can--and must--educate all youngsters is deeply rooted in society. Teachers who are unable to make strides toward that goal, whatever the burdens they face, can expect to find their woes mounting in the years ahead.

Perhaps the question of accountability will ultimately be settled in the courts. In recent years the question of educational malpractice has arisen. Medical doctors have fought the issue of malpractice over a long period of time. Their fight is often more individual and more verifiable. It is difficult in education to establish blame because of lack of goals or specifics for which teachers or others can be held accountable. It is also possible that many teachers will be responsible in the education of a single child. There is a question of who is to be held accountable. Is it the teacher in the classroom, the parents at home, the principal, the

central office, the superintendent, the local board, the state board, or the legislature? Who is responsible for a child's failure to learn? Could it possibly be the child?

Newsweek (93, 1977, p. 101) reports that by the year 1977 at least five educational malpractice suits had been filed in the United States. In a recent case a Seattle family sued the city's school system because, they charge, their son was allowed to graduate even though he was almost illiterate. The parents contended that their son was unable to read with sufficient comprehension to obtain employment or cope with the demands of society. To date the courts have dismissed educational malpractice suits on the ground that responsibility for a child's inadequate skills cannot be firmly established. The current trend to make minimum competency standards for graduation a matter of state law may force the courts to accept parents' complaints. Once the law clearly specifies the skills needed for a high school diploma, judges will have a more solid legal basis for determining whether a school has done its job--and, if not, ordering redress for the students it has failed.

Ann Landers (53, 1977, p. 13) places primary responsibility for learning on the parents and the child. Education is a shared opportunity and no matter what terms lawyers use to describe educational malpractice, it is not the result of someone else's neglect.

Newell (56, 1977, p. 12b) fears that the courts may rule favorably for parents in just one educational malpractice suit, which would open the door for others.

Presently it is difficult to find instances of teachers who have suffered sanctions or been dismissed for their own failure. However, Hentoff (45, 1977, p. 40) concludes that if the schools aren't ready to put their house in order, others are ready to do it for them. There is still time for teachers and administrators to look to themselves for real standards of accountability. At any rate, malpractice as it relates to accountability, is one aspect of modern education that cannot be ignored.

The accountability movement has forced educators and state legislators to formulate new regulations and laws governing education in the states. It is a force at the ballot box and public opinion strongly supports a high degree of accountability in education.

III. THE BACK TO THE BASICS MOVEMENT

The "back to the basics" movement is an outgrowth of the demand for accountability. The public has assumed that students learned more in the past and that a return to the basics as taught in earlier days was the answer to declining test scores and public criticism of education.

Competency based education, according to Palardy (78, 1972, p. 545), has become synonymous with back to the basics as a modern trend in education. Simply defined, the learner must be able to demonstrate mastery or attainment of specified criteria. The learner will have X number of reading skills, will differentiate among Z number of economic concepts, will know geometric forms with Y percent

accuracy. This is in marked contrast to the usual approach to education which is based almost entirely upon time--given X amount of time, the learner will be taught to the best of his and the teacher's ability. Rather, competency based education means writing precise and positive statements of educational outcomes to be achieved by the learners. Competency based education should extend detailed descriptions of the behavioral outcomes expected of the learner, including identified behaviors, conditions under which the behavior is to occur, and the criterion of acceptable performance. Competency based education should provide for differences among learners based upon accumulated experience, extent of achievement, and rate and style of learning. The process involves establishing a list of behavioral outcomes, diagnosis, pre-testing, alternate learning activities, post-testing, and remediation of those who fail. Competency based education should provide opportunities for the learner to pursue personal goals. Finally, competency based education should be organized and managed to provide for continuous evaluation and revision.

Schuster (83, 1977, p. 237) contends that for most students mastery of the basics is complete by 7th grade. Mastery of the basics in reading should be attained by 3rd grade. If true, this means that only a small fraction of high school students need instruction in the basics. Schuster's contention does not coincide with the public outcry about lack of basic skills among those who graduate from high school.

Newsweek (6, 1977, p. 76) reports that a three million dollar study completed by the United States Office of Education indicates that children from low income families do far better in programs that emphasize structure and basic skills. The study was completed for the "Follow Through Project", a five hundred million dollar government financed effort to raise the educational achievement of poor children. The project focused on 9,200 third grade children. Several methodologies were studied, but the highly structured "Distar" proved to be the most effective. Distar achievement levels approached national achievement norms while the "open classroom" methodology registered the poorest level of student achievement. Every model curriculum tested proved to be successful indicating that proper planning was of key imprtance.

Sam Owen (39, 1976, p. 1), rural Virginia school superintendent, emerged as a folk hero in the "back to the basics" movement. His formula for success was very simple: social promotion was outlawed. Only students who passed twice yearly standardized tests would be promoted. The first year the Greenville County Schools failed 1,300 students, one-third of the school district's enrollment and five times as many failures as in previous years. In the next two academic years 1,800 students--1,100 in 1974-75 and 700 in 1975-76--had to repeat all or part of a grade, but the results have been dramatic. Achievement has improved to the average for the State and the school dropout rate actually declined.

Critics of education have attempted to establish blame for the

current wave of functional illiteracy. Greene (39, 1976, p. 17) lists a complex set of factors which are responsible for high school graduates who are functionally illiterate. First, a new breed of young, anti-establishment teachers who rejected many traditional measures, including tests, grades, and rote learning. Second, the government and civil rights groups applied pressure to desegregate without inflating dropout rates. Third, students' demands for liberalized curriculia and "relevant" courses such as Black studies and feminist concerns. Finally, the ideal that every American boy and girl deserves a high school diploma.

Scott Thompson (39, 1976, p. 17), Associate Secretary of the National Association of Secondary School Principals recalls,

> The old system, based on courses passed, assured people of at least an adequate education. Those who didn't meet the standards left school. But in the '60's, political pressure and public opinion started an egalitarian trend that told us not to hold our standards so high that kids would drop out. The responsibility came down on the schools to get those kids through somehow--and that's what we did. As a result, many courses were watered down--now we can see public opinion changing again, in the other direction.

According to J. H. L. Russell (39, 1976, p. 17), the Black coordinator of remedial education who helped Sam Owen set up the Greenville "back to the basics" program,

> All children can learn, even the worst ones. If they can learn to dance, to sing the blues, to jazz it up, then they can learn academic work. It's just a matter of shifting the energy from one thing to another. If they are properly motivated, they will learn.

Spady (90, 1978, p. 16) offers a definition for competency based education: "Indicators of successful performance in life-role

activities", or, stated another way, the ability to produce effective results in life.

The life goals approach is in marked contrast to "back to the basics" in the traditional sense. "Back to the basics" includes emphasis on the three R's and a return to dress codes, strict discipline, and respect for school authority.

The Fitler school in Philadelphia, Pennsylvania (32, 1977, p. 18) is typical of at least several dozen schools in more than twenty-two cities in the United States which offer a "back to the basics" approach. Fitler was first offered as an alternative school provided with special transportation. There were so many applications for the 330 openings that Philadelphia plans to transform fourteen elementary schools and four middle and junior high schools to a traditional approach. The reading specialist at Fitler, Eileen Winker (32, 1977, p. 18), observed,

> In the other schools where I've taught, the kids didn't have any sense of discipline from within, here, they are in control of themselves. They are proud of their performance and come ready to learn.

James Howard (47, 1978, p. 29), Staff Associate with the Council for Basic Education, feels that a return to the basics is a must, but that we should not expect the schools to teach what can be learned outside. Improvements in education, resulting from the "back to the basics" movement include: more effective teaching of writing, improvement in the teaching of reading, improvement in the teaching of mathematics, a reduction in the number of electives and mini-courses

which permit students to avoid the "hard" courses, high school diplomas representing minimum standards of student achievement, more coherent programs of study for college undergraduates and more demanding requirements for the bachelor's degree.

Many educators feel that the competency movement and "back to the basics" mean the elimination of the "frills". Such an attitude is justified by recession, inflation, and declining enrollments which influence the budget-cutting process.

There is fear that the competency movement may cause an over-reaction to illiteracy problems. According to Hechinger (42, 1978, p. 32), almost invariably the first subjects to "get the ax" are the primarily esoteric ones, led by music and art. Let the sports program be eliminated--particularly the varsity variety from which only a small minority derive active benefit as participants--and powerful voices are instantly raised, usually those of the leading opponents of frills.

The fallacy of the present tendency to strip down education to the three R's, for pedagogical or fiscal reasons, is that it can only make the basic skills appear less useful to the children. The child's interest in learning to read and write may be stifled if the rest of the school program is barren. The stripped down, no-frills basic curriculum allows for too little transfer of skills to other areas--creative, artistic, or just plain interesting. The harm that can be done to the three R's by the elimination of school newspapers, sports programs, or other extra-curricular activities that require basic

skills should be evident to everyone concerned.

Hechinger (42, 1977, p. 26) concludes, "Basic and essential as they are, skills remain only tools with which to manage the multi-faceted business of learning, living, and striving."

It is generally accepted by most educational organizations that mathematics, language arts, writing, and reading constitute basic education. The annual Gallup Poll (94, 1977, p. 28) of public opinion on public schools in 1976 included three questions regarding the "back to the basics" movement. When asked if they had heard of the "back to the basics" movement in education, 41 percent responded "yes". When questioned regarding what the basics are, the responses clearly identified reading, writing, and mathematics. Those who had heard of the basics movements were asked if they favored or opposed it; an overwhelming 83 percent indicated they favor the movement.

IV. THE COMPETENCY MOVEMENT

Competency based education is not new and, in fact, is a basic restatement of "survival of the fittest" in nature. When man learned to grow crops, competency was how well he could apply the skills he had learned from his father. The test for the hunter or fisherman was the game obtained. Modern-day professions require some standards of proficiency before a license to practice is granted. This is true in medicine, law, teaching, and in most trades.

High school competency testing was a common practice around 1900 and didn't fall into disuse until World War II. New York

administered competency tests, beginning in 1865.

Another competency measure is the General Educational Development Test. Neill (66, 1978, p. 7) says that a GED diploma may actually have more credence with some employers than a high school diploma.

Presently competency education has been mandated by state department regulations and the task of the various school districts is to comply with the various laws or state department regulations. It has been estimated that eleven states have passed legislation, twenty state boards have adopted regulations, and activity is underway in nineteen other states at the state or local level (59, 1978, p. 26).

Testing is an essential part of the competency movement. It was needed to validate and verify the performance demanded. Kirkpatrick (51, 1978, p. 5c) pointed out that most testing programs are still in the early stages and will not be operational for several years. As tests have been designed and administered, there have been charges that the tests are culturally biased and unfair to certain minorities or the poor. Of the 110,000 students who completed the Florida competency test, 40,700 failed. The highest failing rate--77 percent--was among Blacks. The National Association for the Advancement of Colored People charged that the test was pitched to the skills of White, middle-class students. Teacher unions accused the state of instigating a test craze that could lead to "teaching to the test".

A few professional testing firms have provided tests of basic

skills. Some, such as the SHARP (Senior High Assessment of Reading Performance) test published by McGraw-Hill and the APL (Adult Performance Level) test published by American College Testing, have been developed in cooperation with local school districts. Both tests provide a measure of basic skills in reading, writing, and mathematics as well as testing basic survival skills involved in living successfully within the community.

At the present time there are far more questions about the competency movement than there are answers. Walker (103, 1977, p. 83) sums up the list of questions being asked by educators:

> How do we determine minimum competencies? Are the three R's sufficient" What about practical skills? American History? Civics and government? A career entry skill? What level should be set as a minimum? Should students be able to spell 90 percent correctly, 100 percent, or 75 percent? Should we insist that they be able to read television ads and highway signs? The daily newspaper, or the Constitution? Who is to make these decisions? Shall we have a vote of the people? Experts? Local teacher or the state bureaucracies? How are we to avoid both the rigidities of a national system of minimums and the inequities and chaos of thousands of conflicting standards? Can we afford to develop reliable and valid tests corresponding to every district's standards or will economic pressure and public demands for equity not force us into a nationwide set of standards? How are we to cope fairly with all the special circumstances that threaten test validity, such as test anxiety that causes some students to freeze up in test situations, or bilingualism, or learning disorders of various kinds? It is not surprising that lay people would overlook or discount such conceptual and technical problems. In their view the problem is simple, and all children must master the basic skills.

The Nevada State Department of Education conducted a study of a Competency Based High School Diploma Program (17, 1977, p. 1-14) in 1977. The project outlined the work of special task forces assembled to establish direction for the State regarding minimum competency.

The work of the task force was cut short when the Nevada Legislature enacted NRS 389.015. The law mandated testing for minimum competence in grades 3, 6, 9, and 12 and provided for remediation for those who cannot demonstrate proficiency in reading, writing, and mathematics. Beginning with the class of 1982, students who fail to pass the proficiency tests will be denied a diploma. The State Department of Education was given the responsibility to develop tests which are to be administered by the local school districts.

At Eldorado High School, Las Vegas, Nevada, a program involving testing for minimum competency in mathematics was begun in 1973. The mathematics test developed at Eldorado High School was submitted to the National Association of Secondary School Principals for inclusion in their publication Competency Tests and Graduation Requirements (14, 1976, p. 63), published in 1976. The Eldorado High School program includes the curriculum mandated by the State for measurement of minimum competencies. A model program has been developed for implementing a minimum competency program at the high school level.

V. THE NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS

Under the law of 1867, an act of Congress formed the United States Office of Education "for the purpose of collecting such statistics and facts as shall show the condition and progress of education in the several states--and of diffusing such information" (98, 1967, p. 61). Little had been done since 1867 to fulfill the

mandate of the U. S. Office until about 1965 when the first work toward a National Assessment of Educational Progress was initiated.

A study group headed by Ralph Tyler set about to investigate 256 population groups, ages 9, 13, 17 and adults 26-35. The population groups were further divided according to geographic area, income levels, sex, and urban-surburban-rural divisions. A 10 percent sampling population was used to test 10 areas: reading, writing, science, mathematics, social studies, citizenship, literature, art, music, and vocational education.

Fearing a national testing movement, the idea was opposed by such professional organizations as the American Association of School Administrators.

The basic materials for the National Assessment were prepared by four national testing organizations: Psychological Corporation, The American Institute of Research, Educational Testing Service, and Science Research Associates (63, 1965, p. 2).

Major funding for the National Assessment came from the Carnegie Corporation in New York, along with money from the Ford Foundation and the United States Office of Education (60, 1966, p. 2).

In answer to criticism and concern that the National Assessment may become national competency testing, Ralph Tyler (105, 1966, p. 71) explained,

> It is an effort to develop an inventory of educational progress roughly comparable to the Gross National Product. The assessment seeks to determine the mastery of certain knowledge of skills. Currently the public's opinion about education is based upon assumption, personal views, or popular impressions. Those feelings must be corrected by

> facts . . . all that is planned is a collection of evidence to provide a better basis for making educational policy.

The results of the first National Assessment were published by the Education Commission of the States and is a summary of work done between 1969 and 1975. About four hundred thousand individuals have been surveyed and the results tabulated (49, 1975, p. 1).

Cunningham (21, 1976, p. 82) was critical of the NAEP's findings and feels that data collected is too complex for construction of possible explanations of causes, and the cause and effect of learning is not clear in the answers given.

Some things are clear. Science knowledge in the period tested has dropped 2 percent while reading levels for 17 year olds have increased. Ninety-three and eight-tenths percent of Whites are functionally literate, compared to 62 percent of Blacks. Written communication skills have slipped (as indicated by statistics) in that 19.7 percent of adults have difficulty with the basics: reading, writing, computation, problem solving, consumer economics, government, law, health, community services, and occupations. The NAEP offers no answers as to why the deficiencies have developed or what to do about it. It is recommended that the assessment be expanded to include such cause and effect relationships (21, 1976, p. 82).

Based upon the results of the National Assessment, the U.S. News and World Report (76, 1976, p. 58) predicts that millions of young people with high expectations but scanty skills are heading for a clash with the hard realities of the job market. Fewer than half of the 17 year olds and adults could measure 3 3/8 inch lines with

a ruler. About one-third came to within 1/8 inch of the correct answer. Many flunked these practical problems:

> Suppose you purchased two hundred dollars in merchandise on the installment plan. You make 24 monthly payments of $11.35. How much is the finance charge in the two years? Only half the 17 year olds and 2/3 of the adults could answer $72.40. Given three minutes to find a name in a phone book 61% of 9 year olds, 29% of 13 year olds, 12% of 17 year olds and 7% of adults were unable to complete the task (76, 1976, p. 58).

Unrealistic expectations of those within the groups was equally a problem. Forty-four percent of 17 year olds wanted a professional career but only twenty-five percent of the job market is open to professionals. Three percent of girls chose "housewife" as a career at age 17, but 37 percent of women are housewives.

The students in school didn't receive much help in making correct choices from guidance counselors. Of those tested, only 35 percent had discussed their future plans with a counselor. These same 17 year olds, who were ready to graduate from high school, disclosed that only 40 percent had ever taken a test of job-related aptitude. As would be suspected from previous tests, Blacks and low income families scored lowest on the tests. Half of the adults tested had participated in some form of continuing education. These same individuals also scored highest on the tests. Despite complaints about unemployment, 80 percent of 13 and 17 year olds had taken part in paid work (76, 1976, p. 58).

Education U.S.A. (61, 1977, p. 233) reports on a Carnegie Corporation commissioned 2.4 million dollar study of the NAEP designed to find out if the money invested on NAEP was worthwhile. The report,

Measuring Educational Progress, conducted by William Greenbaum and fellow researchers at Harvard University, was critical of NAEP and concludes that it had failed to do well implementing its major goals. NAEP admits to early problems in the study, but contends that no valid conclusions can be reached until three full cycles--fifteen years--have been completed. NAEP contends they have made the necessary modifications to be successful and that the 25 million dollars, plus 6 million dollars per year to operate the National Assessment, were justified.

The National Assessment has provided valuable information to educators. If the stated goals are achieved, the student profiles made available can be invaluable in curriculum development. If, however, the fears expressed by the AASA and other educators become a reality and the National Assessment becomes a vehicle to establish a national curriculum and national competency testing, we have undoubtedly seen the end of local control and involvement in education as we know it today.

Education U.S.A. (13, 1977, p. 6) pointed out the very real concern some educators had about the possibility that a national competency bill might be approved by the Congress. Such a bill was introduced in 1977 by Representative Ron Mottl, Democrat from Ohio, and other lawmakers have suggested a national voluntary minimum competency test or the targeting of federal monies on basic skills instruction. It is feared that the massive effect of the federal bureaucracy and its control over resources could change our way of

life, including our system of government. Control of children's minds was the first step in the establishment of totalitarian governments in Germany and Russia.

VI. THE COLEMAN REPORT

The Coleman Report (8, 1967, p. 464) a massive national study of education indicated a decline in student abilities in the United States. The report included evaluation of 60,000 teachers and 645,000 students in a statistical sample of schools. Again, as in previously mentioned studies, some of the factors usually thought to affect education did not prove to have the effect expected.

One result was predictable in light of other nationwide studies: minority students scored much lower than others. The study did not make clear whether this was due to being minority students or because a large proportion of minority students are also low income students.

Other factors were not so easily discernable. The physical facilities available for all students were comparable and were roughly equal. Teacher training and maturity was about equal for all students. It was also discovered that differences in school environments had little effect on achievement.

One interesting discovery indicated that the performance of students was shaped primarily by what they themselves bring to the schools out of their own family background. Once children fall behind in school, they did not get the push to catch up from poor

families as they did in non-poor families.

School failures to today are tomorrow's welfare cases. The Coleman Report arrived at this conclusion because an estimated five hundred thousand high school graduates each year lack eighth grade skills in basic subjects, and most of them cannot find adequate employment.

When all of the factors which are normally thought to be important in the education of children--class size, pupil-teacher ratio, physical facilities, teacher training, etc.--are held constant, the differences in pupils tend to wash out. It then becomes clear that the social, economic, and educational background of students and teachers has the greatest effect on learning.

The most important aspect of education was whether the child was equipped at the end of school to compete on an equal basis with others, whatever the social origins. Minority children start school with severe deficiencies and end up with greater deficiencies. The ultimate lesson to be learned from the Coleman Report was that educators did not know how to educate children from the lower-class homes (89, 1967, p. 181). Today educators are expected to educate all the children of all the people and hold them all in school until they receive a diploma. In this light, those educators who enjoy comparing the American schools with those of other countries should also compare the number or percent of children who are expected to receive a diploma.

VII. DECLINING TEST SCORES

The controversy about testing and competency actually began in 1973 with the annual release of test scores by the College Entrance Examination Board (66, 1978, p. 25). Neill reports that CEEB officials admit that they were unprepared to handle the rash of calls from media representatives who wanted more information about the test score declines.

Numerous articles appeared in the media and student achievement became an issue in the minds of the public. Demands were heard for a return to the basics of education. In the midst of all the questioning and demanding the "experts" could offer very little by way of an explanation as to why test scores had declined. Opinions proliferated but very little of substance was presented. Charges and counter-charges were hurled between the liberals who had dominated education during the 40's, 50's, and 60's and upon whom the blame for lack of achievement came to rest and the conservatives whose voices had been drowned out during the same period, but were now seen as virtual heroes in educational reform. People like Ralph Tyler dusted off works written twenty-five years earlier and presented them again, with very little revision. The "good old days" became the method to save the schools and people began to talk once more about dress codes, stricter discipline, and "back to the basics" curriculum.

Armbruster (2, 1977, p. 3) was critical of educators and pointed out that more has been spent on education than for defense,

yet test scores continued to decline. The factor that seemed to affect academic performance was the degree to which the schools sacrificed traditional disciplines and subjects for the sake of innovative teaching activities. Educators searched for outside sources to blame for failures; the home, the war on poverty and environmental issues became chief targets in the scapegoat process. These critics, many of them educated in a school system that had successfully educated children who emerged from the unspeakably impoverished conditions of the immigrant slums and the Great Depression, suddenly said that this same school system was incapable of teaching the fundamentals to children from comparatively better economic conditions. Worst of all, these same educators broke a cardinal rule of the past by opening the schoolyard gate to the language, grammar, habits, dress and values of the slums. Middle-class values, correct grammar and word usuage, careful, meticulous arithmetical operations, even the banning of gutter language, were no longer stressed as much as they once were. The bad grammar and habits spread to all the groups. Permissiveness caused disruptive conditions in suburban schools and violence entered the core city schools. Many teachers began to treat children as if they were adults who had the experience and judgment of grownups; they yielded to students the responsiblity of determining when, if and even what they would study.

In the atmosphere of permissiveness the "hard" courses were replaced by more "innovative" courses which lacked substance. New methodologies were also introduced to replace phonics and rote learning. Grade inflation and social promotion were the order of the

day. Many teachers reported being threatened with trouble or even dismissal if too many students failed to advance through the grades.

Armbruster (2, 1977, p. 3) concluded that a return to teaching and learning methods of twenty years ago was the necessary answer to failure in the schools. His comments were typical of hundreds of opinions expressed in newspaper articles which have appeared since 1973. This pressure applied by the media was a driving force which caused lawmakers and state policy makers to produce regulations mandating competency testing to validate the education received by high school graduates.

College Entrance Test Scores

Education U.S.A. reported that in 1977 for the first time in ten years the average verbal scores of seniors taking the SAT did not decline. The verbal average held steady at 429 (compared to 466 in 1967); the mathematics score, which has not declined as dramatically as the verbal during the last decade, went down another two points to 468 (compared to 492 in 1967). The arrest of the decline prompted Scott Thompson (70, 1978, p. 17), Associate Director for Research of the National Association of Secondary School Principals, to predict that scores will rise next year and continue to do so. Thompson feels that becoming aware of the problem is half the solution. Teachers became aware that rigorous instruction is required for improvement of student scores, therefore, the trend should change as standards are raised.

Identifying causes for the decline in test scores is not easy.

The College Entrance Examination Board (74, 1977, p. 377) completed an extensive study; their conclusion is that no single cause and no single pattern of causes is suspect or can explain the decline. The twenty-one member CEEB panel that completed the study discovered that the decline occurred in two distinct phases each with different causes. The drop during the period 1963 to 1970 was due largely to more poor-to-average students taking the tests. Many students who in earlier years would not have attempted college were now entering. During the 60's the number of test takers tripled, which led to a decline in the average scores. CEEB pointed out that it was doubtful that this 75 percent cross-section of college entrants could ever be brought up to the academic level achieved by the top 50 percent of the previous years.

Since 1970 the decline, which has been sharper and more pervasive, was not so easily explained. The conclusions reached by the CEEB panel (74, 1977, p. 377) were only hunches, but strong evidence pointed to the fact that high school students were taking fewer traditional courses, especially English Composition, and more were enrolled in electives. Less thoughtful and critical reading was being assigned and completed. Careful writing was no longer a requirement. There has been a decline in educational standards at all levels, including toleration of absenteeism, social promotion, less homework, and watered-down textbooks.

The schools have made concessions to changing circumstances and excessive demands which have gone beyond what is good for everyone involved.

Other causes have been identified outside the schools. Fewer students live with two parents. Students were distracted by twenty to thirty-five hours of television viewing per week, and there was a marked diminution in student learning motivation. (This may be an effect, not a cause.)

Another set of causes may be the tests. While the curriculum of the schools has often undergone radical changes, the tests remain unchanged. Most tests are traditional in their requirements for mathematics and English while teaching in these areas changed to more modern approaches. The testing companies have been accused of favoring the call for a return to the basics to promote their programs. One fear expressed by educators was that testing will dictate curriculum and teachers will teach to the tests without regard to satisfying the needs of the students.

Thompson and DeLeonibus (97, 1978, p. 4) have examined the school related factors which seem to play a significant part in assuring high SAT scores. In the process, thirty-four high schools were identified where the test scores remained the same or increased throughout the period when most schools were in a sharp state of decline. These thirty-four schools share a common set of standards which they all felt important to the needs of students. The schools are not unique in that every region of the country is represented in their ranks. The schools are both large and small, rich and poor, some from blue-collar neighborhoods and some from highly affluent communities. The only constant was a certain agreement about

priorities for the college-bound student. Most of the schools had strong parental support and maintained a rather traditional curriculum. A final conclusion reached was that most schools have been too responsive to the popular demands and social distractions of the times.

Ebel (27, 1977, p. 2) placed part of the blame for the decline in SAT and ACT scores on such things as lack of discipline in the schools, vandalism, drug and alcohol use, teacher strikes, resistance to busing and similar disruptive influences. The fault seemed to lie with educators who let these influences get out of hand--progressive educators who valued self-concept more than achievement. The job of the school is learning, and what is learned mainly is the kind of verbal knowledge and cognitive ability sampled by the tests.

Normative-referenced Tests

Normative-referenced tests, those which report their findings on the basis of population norms, came under fire from many educators. Some felt that all testing should be abolished along with grades and all forms of evaluation. Some would merely eliminate standardized intelligence tests.

Herndon (46, 1976, p. 13) found many reasons to be critical of testing. He contended that interpretations of tests were based upon many false assumptions concerning education; measuring the status of simple skills was too complex for even the best standardized test to measure. People in education do not agree on educational goals to be measured. Standardized testing fosters "Big Brotherism". The tests mandate the same learning objectives for every child regardless of

need. Standardized tests seem to encourage conformity at the expense of creativity. Tests are purported to improve allocation of resources to needs, provide data to help parents evaluate schools and make decisions about educational needs, and can be used to evaluate teacher performance, but standardized tests fail to accomplish these values of testing claimed by the advocates of testing. Herndon contended that he and the National Education Association do not object to accountability, only to accountability to standardized tests. Teachers should be accountable to students and parents, not to the test maker. Testing in schools may be compared with an automobile assembly line. The line cannot turn out more cars than it can handle, or without proper materials, and what if some car refuses to be assembled like some students? Standardized tests treat students and schools like a factory turning out cars--all the same. The greatest fallacy is that children are all alike enough to be measured by the same test.

Hedges (43, 1977, p. 417) charged that, "One of the most subtle but viciously effective cultural mechanisms for harming children in the United States is the persistent confusion between norms and standards." Since the norm is derived from the mean and the mean changes with each test administration it does not clearly define the position of the learner. There will always be those at the norm and those who are above and below the norm, but who are developing normally for them. The range between and among children becomes greater during their school years. It increases because achievement is a function of aptitude and time. It is also a

function of perseverence, quality of instruction, and ability to understand instruction. The higher the aptitude for a subject, the greater the range of achievement in a given amount of time. Most students can master what educators have to teach them. It is the task of instruction to ascertain the means. This is proven since most children master man's most difficult cognitive task: learning to speak.

Klitgaard (52, 1974, p. 2) takes a more moderate approach, and while he agrees that standardized achievement tests are unsatisfactory, they should be used until newer and better measures are available. If standardized tests are used, educators should go beyond the mean in the evaluation of results and as policy decisions are made relative to education.

Weber (104, 1974, p. 21 & 29) summarized his feelings about standardized achievement tests given to elementary and secondary school students and concluded that such tests,

> Are of little or no value to competent teachers in appraising the work of individual students. The individual scores are of value to people outside the classroom, such as counselors, when they form a regular pattern over a number of years, and in occasional other circumstances, such as attempts to raise standards of promotion. Group scores can be of value to teachers in studying the relative progress of a class. Group scores, if they are interpreted and used with care, can be of value to others (principals, researchers, central office administrators, school boards, and the public) in making judgments about curriculum, programs, schools, and school systems.
>
> Tests assume that all persons tested have had equal opportunity to acquire the knowledge and skills tested. Since they have not, the tests discriminate unfairly against the groups that have had below-average learning opportunities and discriminate unfairly in favor of groups that have had above-average learning opportunities.

Tyler and Wolf (99, 1974, p. 6) formulated five contexts in which the issue of testing arises. First is the Civil Rights Movement. This context gained national importance in 1954 with the passage of the Civil Rights Act by the Congress of the United States. If testing is based upon White, middle-class values and entry to educational programs is controlled by tests, how can the educational opportunity be made fair and equal to everyone?

A second context involves the effort to make education more effective in reaching all children and youth. Can children placed in low-ability groups achieve their potential? Are tests reliable ways to place students into such programs?

A third context is that of assessing educational institutions. Can tests which are designed to appraise individuals in terms of their deviations from the mean of the population to which they belong be used as a valid measure of the institution which houses them?

A fourth context is that of measuring the relative effectiveness of different educational programs, teaching methods, or instructional materials. The same problems as those mentioned in the third context above exist.

A fifth context is the current concern to maintain individual privacy in certain areas of life in spite of the close interdependence of people in economic, political, and civic affairs. The Family Rights and Privacy Act of 1974 has provided for security of information about aptitudes, personality and interests measured or revealed by tests and other instruments.

There is always the question of the validity and reliability of tests administered to students. Some educators argue that teacher-made tests are the most valid because the teacher knows the child and is more aware of the learning goals to which the child was subjected. Other educators contend that teachers are not professional test makers and cannot be expected to make valid tests.

Education U.S.A. (75, 1977, p. 85) reports on the National Institute of Education meeting where the issue of standardized testing was debated. The participants concluded that the public has not been told that the whole state of the art of evaluation and testing is primitive. It was pointed out that educators should not use the excuse that the issue is too complex to resolve. The immediate goal is to improve the actual development of tests and the dissemination of information about tests.

A recent technical report (75, 1977, p. 85) indicated that standardized tests are not standard. The report compared commonly used standardized tests and found striking differences among the various commercially produced tests. As an example, the Iowa test relies more heavily on story problems; the ITED has 40 percent, compared to 22 percent for the CTBS. It is also pointed out that areas not taught are tested and different teachers provide different emphasis even upon things which are taught.

Hassett (40, 1978, p. 31) revealed another set of problems relative to testing--the attitude of the person being tested. First, was the pupil sick or emotionally upset the day the test was taken?

Second, does the child become so tense when taking a test that the results are meaningless? Third, has the pupil given up early in the test? Fourth, does the child understand the questions? Teachers should use the valuable information which standardized tests provide but they should also realize the limitations of test scores.

Criterion-referenced Tests

Accountability and competency can only be determined when some accurate measure of the elements for which the student is to be found accountable and competent is applied. In order to establish the level of competence thought to be desirable, goals and objectives must be established and then some device created which can measure how well the student has learned the objectives.

There are, at present, two methods commonly used to measure the achievement of students. The most widely used measure is the normative-referenced tests previously discussed. As noted, normative-referenced tests have come under a great deal of criticism, mainly because the testing has been misapplied in many instances and has been the source of erroneous conclusions about pupil achievement.

The second type of testing instrument is the criterion-referenced test. Brazziel (12, 1972, p. 52) reported on a National study which indicated that sixteen out of twenty-four bellwether school districts in the United States (including the Clark County School District) employ criterion-referenced measures to test pupil achievement. The criterion-referenced measures are more satisfactory because they measure the pupil progress toward the mastery of specific

objectives as defined by the school. Furthermore, the criterion-referenced measures are based upon the actual teaching/learning conditions shared by the child and the teacher. This is in contrast to the normative-referenced test which measures pupil achievement relative to other children, not the course. Normative-referenced test results can adversely affect teachers, administrators and students, yet not test what has been taught.

Brazziel (12, 1972, p. 52) listed some advantages of criterion-referenced tests to guide educators in test selection. First, the tests permit direct interpretation of progress in terms of specified behavioral objectives and facilitate individualized instruction. Second, it is possible to eliminate a situation where half of American children must always be below the median, no matter how high or low that is. Third, the tests are usually short summative tests which enable the teacher to check on student progress at regular intervals. Fourth, it is possible to eliminate pressure on teachers to "teach to the test" in order to have children make a good showing, and teachers are able to compile a comprehensive record of each child's achievement or development.

The disadvantages of criterion-referenced measures are largely factors which will be overcome as the tests receive wider development and use. It is possible that reporting systems will vary between districts. Criterion-referenced tests are new and work must be done to construct evaluation and comparisons of performance of school districts.

Testing in the State of Florida came under criticism because results obtained through the Florida Accountability Program were disappointingly low, particularly in mathematics. Brandt (10, 1978, p. 99) reported on the conclusions reached by the National Education Association and the Florida Teaching Profession-NEA. The associations criticized both the strategy chosen by Florida for achieving accountability and the way it was put into effect. The strategy was seriously faulty, according to the associations, because it violated the legislature's own policy of school-based management. Not only that, the officials acted so hurriedly that those who were expected to make the plan work and those affected by it were not adequately involved. Florida tested for mastery of basic skills and for satisfactory performance in functional literacy.

W. James Popham (80, 1978, p. 91), long an advocate of behavioral objectives and criterion-referenced testing, warned that, "Just as there are dull discos and yukky yogurt shops, there are criterion-referenced tests that are less fit for schools than they are for paper shredders."

American education has properly turned away from normative-referenced testing and toward criterion-referenced tests; but as educators jump on the criterion-referenced testing bandwagon, it is important to be wary of badly constructed criterion-referenced tests which may do more harm than good.

A properly constructed criterion-referenced test is one which clearly describes the child's achievement with respect to well defined outcomes.

Popham (80, 1978, p. 93) described six characteristics of well constructed criterion-referenced tests:

> First, it is necessary to include a descriptive theme that with no ambiguity spells out just what it is the examinees who take the test can or can't do.
> Second, the behaviors are assessed with an adequate number of test items.
> Third, the test must be focused on a limited number of significant learned behaviors.
> Fourth, enough evidence to establish that the test possesses satisfactory reliability is required.
> Fifth, the test will have been subjected to a rigorous validity appraisal, particularly regarding the defensibility of the behaviors it measures, and
> Sixth, the availability of normative data that will permit educators to answer more sensibly the question: "How good is good enough?" is essential.

It might be important to consider another pitfall of the testing movement which is sweeping American schools. Sheils (88, 1975, p. 66) described California's new testing program as the "Dropout Exam". The California high school proficiency test allows students who pass and who obtain parental permission to drop out of school. It was reported by some educators that the test is more rigorous than California high school graduation requirements. Students must demonstrate the ability to read, write, and reason. The four-hour examination comprises two hundred questions which focus on basic skills in literacy and mathematics, and on specified practical abilities. There is a danger that the immaturity of those who pass may affect their ability to compete in colleges or in the job market. The community college system in California is required to accept the proficiency certificate awarded upon successful completion of the test the same as a diploma. The diploma, they contend, does not certify ability, while the certificate does.

The most serious controversy about criterion-referenced testing centered around the establishment of standards and objectives to be measured (19, 1978, p. 49). The State of Maryland is planning to test, among other things, performance in the use of leisure time. Recently, a bill was introduced in the United States House of Representatives to establish a commission to set national educational standards and develop appropriate tests. New York has been criticized because test standards were set too low while Florida has received equal criticism because some educators say standards are too high! The establishment of educational standards to be achieved and who shall be responsible to set the standards is an important preoccupation in education.

VIII. ESTABLISHMENT OF GOALS AND STANDARDS

Several years ago, James E. Allen, Jr. (1, 1970, p. 24), U. S. Commissioner of Education, made a prophetic call for educational change in a speech before the National Association of Secondary School Principals assembled in convention at Washington, D. C. Allen called for a new, tougher attitude toward education where increasing demands are made for performance, not just promises. "What the future holds," Allen said, "is a recasting of the entire American educational system in line with our new perspectives on our national purpose. Competence is the one great necessity." Commissioner Allen stressed that, "No one should leave school without a basic education and skills which qualify him for the satisfying use of his abilities in the world of work."

Approximately one-fourth of young people are denied access to the labor force because of lack of skills. Youth should take from high school genuine skills and a sense of direction rooted in competence--the ability to function productively and satisfyingly.

America was the first country to make competence the prime source of status rather than letting prestige come from an unassigned position in society. The challenge to educators is to revitalize this great tradition by insuring that no student is denied the deep satisfaction of competence, that inner security of knowing how to do something the rest of the community needs and wants. According to Allen (1, 1970, p. 24), "This is true privilege. This is the final affluence of the spirit."

Commenting about the tasks schools should undertake, United States Commissioner of Education, Sterling M. McMurrin (60, 1967, p. 40) contended that most revolutions are lost because their aims were ambiguous and ill-conceived. Educators cannot afford to lose the revolution in education by being overwhelmed by the new technology because we can't match it with intelligent and resolute purpose. Education is a function of the society and its culture. The purposes of education are determined by the character of the social institutions and by the values of the culture. In short, the elementary function of education is the perpetuation of the culture. McMurrin further contends that the proper function of schools is to be the chief agent of progress, whether by the advancement of knowledge, improvement of the arts, technology, the social conscience in institutional

organization and administration, or by the attainment of large visions of the future which are prime movers of history. There is too little concern for the substance of education and too much concern with methodology. The central task of the schools is to disseminate knowledge, cultivate the intellect, and induct the uses of reason.

Ralph Tyler (101, 1977, p. 11), viewed by educational liberals as being too conservative to be a part of modern education during the 50's and 60's, is now in the process of revising a book he wrote over twenty-five years ago. Tyler sees no reason to change the fundamental questions raised by his text, Basic Principles of Curriculum and Instruction: What should be the educational objectives of the curriculum? What learning experiences should be developed to enable students to achieve the objectives? How should the learning experiences be organized to increase their cumulative effect? How should the effectiveness of the curriculum be evaluated?

The overwhelming direction educators have received from the American public, from lawmakers, and from many educators concerning the standards for education of our youth is to return to the basics and adopt minimum competency standards for all high school graduates. Public reaction to the apparent lack of achievement among high school graduates is not as important as the establishment of the competencies required to qualify for graduation. The dilemma that many educators face in trying to set standards for minimum competency was expressed by Fink (31, 1976, p. 10) who believes that expertise required to construct reliable and valid competency-based instruments is not

currently available in a form that an instructional developer can readily translate into practice. There are few, if any, rules available to guide in the selection of objectives and to state them. Developers also lack test-writing skills. At present, there are no standards for scoring the tests, which advises caution in the use of competency measurement and in the application of the results.

One of the first agencies to study minimum competency was the National Association of Secondary School Principals. In a comprehensive handbook, Competency Tests and Graduation Requirements (14, 1976, p. 1-69), the association researchers assembled most of the information then available. Only a few leaders in the competency movement such as Denver, Oregon, Duval County Florida, Los Angeles, Omaha, Nebraska, and a few national testing companies dared to set standards and make attempts to provide remedial help for students.

Eldorado High School, Las Vegas, Nevada, has developed a program of competency testing in mathematics and is mentioned in the NASSP publication (14, 1976, p. 63).

In many cases these first halting steps were in reaction to continued pressure exerted by public opinion concerning the lack of student achievement. Educators responded to the inability of some students to achieve, and to laws and regulations which were being enacted in the various states and districts.

Pipho (79, 1976, p. 34) described the competency trend at the end of 1976 when sixteen states had taken either legislative or state board action to insure that minimal competency standards of some type

were introduced into the public schools. In the first half of 1977, state legislators introduced more than seventy separate bills involving minimal competency standards; by the end of the year, the number of states with mandated competency standards increased to thirty-one. Twenty of the thirty-one states have set minimum competency standards that affect regular high school graduation. These states include Alabama, Arizona, California, Colorado, Delaware, Florida, Idaho, Kentucky, Maine, Maryland, Nevada, New Mexico, New York, North Carolina, Oregon, Tennessee, Utah, Vermont, Virginia, and Wyoming.

Grade promotion, according to Pipho, is tied to minimal competency testing in only four states: Arizona for grade 8; Kentucky for grades 3, 5, 8 and 11; Maryland for grades 3, 7, 9 and 11; and Florida for every grade but particularly grades 3, 5, 8 and 11 because of testing procedures (79, 1976, p. 34).

Twenty-one of the thirty-one states require some form of remediation. Only one state--Arizona--had programs which affected the 1977 high school graduation.

The common standards accepted by most states representing minimum competency include reading, writing, and mathematics. Some state regulations also mention such additional requirements as survival skills or life skills.

Henry Brickell (3, 1977, p. 65), in a keynote address to four regional conferences on minimum competency testing, posed tough questions for educational planners:

> (1) How will you measure the competencies? Actual performance, simulated performance, or paper and pencil--

which is easier and cheaper but less reliable?

(2) How many minimums? A single standard can be too hard for a dull student and much too easy for a bright student.

(3) How high and how low is the minimum? Schools with competency testing usually fail about 20 percent of students initially, but only about 3-5 percent is feasible or acceptable.

(4) Are the standards for schools or for students? A standard that says 70 percent of the students must pass is measuring the school.

(5) What do you do with the incompetent students and schools. If extra help is provided to schools with low scores or unusual numbers of deficient students it becomes a reward for incompetence.

The danger exists that educators will become so embroiled in asking questions that it will be impossible to get down to formulating answers. The leaders of the competency movement have received a great deal of criticism as the public and educational debate continues. Some educators are taking a "wait and see" attitude, sitting back waiting for someone else to make all the mistakes and doing little or nothing to help solve the problem.

In a Georgia study conducted by Fred Schab (83, 1978, p. 351), questionnaires were administered to 1,196 high school students, 319 teachers, 204 parents, and 98 school administrators. A general summary of the results reveals that students and parents would like to see a higher level of achievement in the basics (the three R's). They would like more political awareness and more physical survival skills. Students and parents favor some practical job experience prior to graduation, and nearly half of them would agree to alternative ways to

earn credits toward graduation. All four groups wanted better career orientation, while parents and students would require some knowledge of repair skills usable in or about the home. Students' opinions reflect youths' views of the future. Parents seemed to be influenced by their own, perhaps bitter experiences. Teachers and administrators were perhaps restricted in their views by the harsh reality of time, facility and budget limits.

The attempt to set standards for minimum competence is not new. Glass (36, 1978, p. 140) described a minimum competency program called the "Payment by Results" plan which was part of the British Revised Education Code of 1861. British law specified the standards which were to be achieved and included external examiners for testing the basic program in reading, writing, and mathematics. The program lasted for twenty years before being abolished. Glass quoted Matthew Arnold as he described the changes the program brought when he comapred the schools in 1859 and again in 1867:

> I find in them, in general, if I compare them with their former selves, a deadness, a slackness, and a discouragement which are not the signs and accompaniments of progress. If I compare them with the schools of the Continent I find in them a lack of intelligent life much more striking now than it was when I returned from the Continent in 1859.

Glass (36, 1970, 142) charged that his fields, psychology and testing, are incapable of giving any reasonable or safe answers to questions concerning how much must a pupil learn to succeed in life, and establishing the minimal level of proficiency that ought to be required of graduating seniors. No one knows the reading level

required to succeed in life or what percent of the graduating class ought to be able to calculate compound interest payments. It is impossible to describe a minimal level of competence at which the pupil attains a skill level barely sufficient for success. Such considerations treat too simply the complex interactive and comepnsatory relationships among tasks and skills. Those who seek to build a system of education on such notions are attempting to build upon fiction--an antiquated fiction, tried long ago and wisely cast aside.

The federal government has threatened involvement in the establishment of minimum competency standards, which has the entire competency movement mired in politics. Secretary of Health, Education and Welfare, Joseph Califano, Jr. (18, 1978, p. 209), attempted to define the federal role in competency testing and basic skills development which leaves no doubt that the federal government intends to become involved in competency. Educators insist that the federal government should occupy a role that is advisory only--limited to technical assistance and research. The federal level should not develop competency tests, even ones to be used voluntarily.

It seems apparent, however, that politicians, listening to the public frustrations about competency, will keep the competency drive going. Senator Claiborne Pell, Democrat from Rhode Island, continues to push for national standards for competency.

Some charge that educators have developed strategies to evade the questions about competency out of fear that the real object of the current movement is not so much to test the competency of the children

as it is to test the competence of the schools. Michigan State Superintendent, John Porter (18, 1978, p. 216), observed that educators who are comfortable with testing are uneasy about the attitude of other states. He stated, "The testing iceberg is going to get them." He was joined by Ralph Turlington, Florida State Education Commissioner, who, when asked if he thought teachers might now teach to the test, stated that he hoped they would. The Florida test measures comprehension in reading and mathematics at the eighth grade level. It has been observed that since the test, everyone is hard at work.

As previously stated, a special task force report (38, 1975, p. 9), published by the National Association of Secondary School Principals saw graduation requirements as reflecting specified content and process (required units or credits) as well as defined approaches to evaluation (competency measures).

Such a balanced approach seems to provide the answers to many of the questions about competency. It prevents the minimums from becoming maximums by requiring students sufficient experience in school to gain the proper cultural and social benefits available. It does not neglect the minimums and establishes a minimal competency floor in the education of youth to provide for credibility with the legislature and taxpayers.

Finally, on the humorous side, Dave Barry (25, 1977, p. 4b), Wayne Newton's man with the "laffs" at the Sands Hotel, when he heard the Tulsa School Board had decided that from now on, all students must be able to read, write, and spell before they are awarded high school

diplomas, quipped, "We had a program like that when I was growing up--it was called 'Elementary School'."

IX. LITERACY

Mention of minimum competency in the present educational climate is sure to elicit comments about literacy, more particularly functional literacy. Literacy, illiteracy, functional literacy and functional illiteracy are closely related terms. Definition of the terms depends upon which agency is using the term and what the agency is trying to prove. Those who discuss the success of the American school system use standards of literacy which reflect great educational achievement and progress. Those who speak in derogatory terms about American schools seem to use a different and lower standard to prove that the schools are failing and that a return to the basics of yesteryear is the only salvation from illiteracy.

The National Assessment of Educational Progress recently completed a survey for the Right to Read Program of the U. S. Office of Education (4, 1976, p. 9). The nationwide results indicated that 17 year olds have improved in the basic reading skills thought to be needed to function in today's world. While these results are encouraging, among these same 17 year olds (21 percent from disadvantaged urban areas of our country) nearly 42 percent of the students who are Black, and 20 percent of the students from the southeast are reported to be functionally illiterate. The survey findings compared the functional reading performance of 17 year olds

during the years 1971 to 1975, and included only those types of reading materials considered to be at the functional literacy level. Each assessment surveyed over 4,200 students and the data seemed to indicate that the gap in reading performance is closing.

Using the NAEP survey (7, 1977, p. 2) as data, about 87 percent of 17 year olds are functionally literate. The highest ranges are found in the Central region where almost 91 percent literacy was reported. The lowest literacy rate, 80 percent, was in the Southeast region. Females ranked 89 percent nationwide, compared to 85 percent for males. White students reached 92 percent with the Right to Read Criterion, compared to 58 percent for Black students. Urban-fringe students were judged to be 95 percent literate, which compared to 78 percent in the urban areas.

The survey reported an overall improvement in literacy, but it must also be remembered that at least 1 out of 10 students nearing high school graduation cannot complete ordinary everyday reading tasks. The test questions compiled by the National Assessment were relatively simple reading tasks, which included recognition of road signs, finding names in the telephone book and similar functional reading skills.

The U.S. News and World Report (95, 1977, p. 61) concluded that 17 year olds who are functionally literate are barely able to read and write; they would probably be excluded from most jobs requiring even minimal literacy. About five hundred thousand minimally skilled young people are turned out by high schools every year.

Nault (64, 1977, p. 25) deplored the state of competency in

the United States. How is it possible in an advanced country such as the United States that nearly one out of three people are barely able to write or read in a country with the highest standard of living, the most schools and the best-trained teachers. Perhaps the advanced state of the economy is partially to blame. Children view television fifteen thousand hours by the time they graduate from high school but spend only eleven thousand hours in formal classroom instruction, a condition that can only be corrected in the home. Education specialists estimated that 50 percent of learning takes place between birth and age four, therefore, parents and the home are the most important single factor in the child's education.

Nault (64, 1977, p. 25) reiterated six guidelines which can help parents to encourage early childhood education. The guidelines were developed by the Missouri Department of Education and should be practiced by parents on a regular basis:

> (1) Listen to your child. Pay attention to what he or she is saying. Call attention to sounds. Listening and attaching meaning to sounds are essential skills that must be acquired before a child can read or succeed in a classroom environment.
>
> (2) Talk with your child. Direct conversation to him or her from infancy. Help your child to learn to distinguish sounds and imitate them. Take a walk together. Talk about things you see and hear. Help the child to classify objects as you see them: food, plants, farm animals, birds, etc.
>
> (3) Sing to your child. This teaches enjoyment of music and rhythm. Help your child roll over, crawl, stand, and walk. This develops muscle control. Let your child explore. Provide safe play objects such as boxes of different sizes, blocks, scraps of cloth with different textures, spoons, and pans.
>
> (4) Help your child learn that he or she is a part of a family group. Include your child in planning family activities. Give encouragement and praise when it is merited.

(5) Control your child's television viewing. Search out better TV programs for children and share them with your child. Talk about the programs. Correct any misconceptions that may have developed from the programs.

(6) Most importantly, read to your child. If you can, read in a way that you will make the experience enjoyable. It's been shown that children who are taught the joys of reading at an early age learn to read quickly and with little difficulty in school.

Education U.S.A. (84, 1978, p. 217) reported the findings of Donald Fisher, Department of Psychology, University of Michigan. He contends that the number of illiterates being graduated from the nation's high schools may be less than 1 percent and not the 2 to 11 percent reported by various national surveys of literacy. Data from four national studies indicates that literacy among students has improved and that adolescents are doing as well as those in the 30-59 group. There has been a large reduction in the illiteracy rates of 16 year olds who repeat one or more years in school. This seems to indicate that the illiterate students are dropping out of school as soon as possible.

Senator George McGovern (29, 1978, p. 31), Democrat from South Dakota, blasted an "alarming" rise in illiteracy and an educational system that tolerates it. He has called for an independent National Commission on Literacy to attack the problem, based upon United Nations information which indicates that illiteracy in the United States is three times that in the Soviet Union. This is in sharp contrast to a Newsweek report (28, 1977, p. 62) regarding education in the Soviet Union which pointed out that schooling in Russia is an extremely unequal opportunity. Several elite schools established in

1960 as part of the Soviet effort to improve educationally are rigorous and produce highly educated young people, but only a select few are able to receive the benefits. Often party status and not educational ability determines who may attend the special schools. Despite the unequal opportunity, Soviet education has made remarkable progress. Seventy-five percent of the Soviet population was illiterate in 1917, while today the literacy rate is approaching 100 percent. The literacy rate in the United States was reported to be 99 percent, compared with the 99.7 percent achieved by the Russians.

There is very little agreement about literacy standards, but it is important to consider how successful American education has been. Despite the conflicts and the multitude of voices who criticize and suggest solutions for solving the problems of teaching 49 million children, American education has succeeded as no other.

Newman (69, 1978, p. 14) reported on the interesting information compiled by the National Center for Educational Statistics which compared the education received by children in several major nations, including Canada, France, Germany, Italy, Japan, Netherland, Norway, Sweden, United Kingdom, and the United States. The United States is highest in total education received, education received by age 15-18, and education received after age 18.

The most recent controversy about literacy testing occurred in Florida (30, 1978, p. 7b). The state mandated a functional literacy test for all students before graduation from high school. The reported failure rate, especially among Blacks, was unacceptably high

and caused a storm of protest from such groups as the NAACP. Approximately 37 percent of the Florida students failed to pass the test of functional literacy, but the failure rate among Blacks was 77 percent in mathematics and 26 percent in communications.

Students who failed the Florida literacy test will be denied a diploma upon graduation and will leave school with an "Attendance Certificate". "Anyone with that kind of certificate will be branded as a dummy who can't read or write or figure on even an eighth grade level," says James Burke (30, 1978, p. 7b), President of the Miami Chapter of the NAACP. "How are they ever going to get a job? You know, a kid who is Black and comes from a lower socio-economic class has some heavy strikes against him without adding this."

Ralph Turlington (30, 1978, p. 7b), Florida's education commissioner, called the receipt of a diploma that hasn't been earned a "Wizard of Oz" diploma that's not going to help students. He says that the Wizard of Oz presented things to people, too, but then he told them it was all humbug. Students who get a diploma without having skills, can't get much of a job or hold onto it. It's not having skills that really hurts people, not whether they have the diploma. Right now it's Blacks who are having the problem. They need skills, not something from the Wizard of Oz.

X. COMPETENCY MANDATED

For school districts in at least thirty-one states the question of competency has been settled by state law or by regulation.

Only the how's of competency remain to be worked out. Competency is in the realm of minimums which are within the reach of most students. The measurement of competencies and remediation of those who do not pass competency tests are the problems faced by educators.

Competency testing in the Denver Public Schools has been an accepted fact of school life for over twenty years. Testing begins in the ninth grade and most students who have difficulty receive remediation and ultimately pass the Proficiency and Review Test and obtain their diploma upon graduation from high school.

Florida has become the center of controversy because of their administration of a functional literacy test to all eleventh grade students. An unacceptably high failure rate, particularly among minority students, plunged the state into controversy regarding the testing and what to do about students who failed to demonstrate functional literacy.

Reporting on news releases which appeared in the Florida newspapers around the time the functional literacy test was first administered in the Fall of 1977, Van Til (102, 1978, p. 556) noted that almost half of the Duval County eleventh graders failed the functional literacy test. At Stanton High School, a nearly all Black vocational high school with the poorest record in the county, only 6 percent of the one thousand students passed the mathematics portion of the test and only 48 percent passed the verbal portion. Similar results were posted in at least seven counties and statewide the failure rate on the functional literacy test was 37 percent.

As might be expected, the constitutionality of Florida's functional literacy testing law is being challenged (33, 1978, p. 266). Attorneys for ten Black high school students have filed suit against the State of Florida. The case, Debra P. v. Turlington, is thought to be the first federal court challenge to minimum competency testing in the United States. In a complaint brought under Florida's State Administrative Procedures Act, parents charged that the state department of education established the scoring procedures for the statewide functional literacy test without a public hearing. The hearing officer declared the scoring procedures, but not the test, to be invalid (72, 1978, p. 324). This action prevented denial of diplomas to students who failed the literacy test. The Florida State Commissioner has until July 15, 1979 to appeal the ruling.

The National Education Association (11, 1978, p. 3) has also entered into the controversy in Florida. A special NEA panel chaired by nationally recognized educator, Ralph Tyler, criticized the haste in implementing the testing program. The complete focus on the public schools ignores an important factor in accounting for some school learning problems, that is, a home that does not provide adequate learning experiences. Another criticism was Florida's failure to follow the accountability act which provides for a policy of school-based management.

Florida's testing program was also seen as defective in that a student may have other skills, such as being a fine auto mechanic, but because he cannot pass a paper and pencil test, he gets something other

than a high school diploma. Excellent teachers set different standards for each individual, expecting each student to do just a little better than he or she presently does. These concerns fall outside the realm of functional literacy testing and yet must be considered as part of each child's education.

At the NEA convention in Dallas, Executive Director, Terry Herndon (65, 1978, p. 335) charged that competency testing across the nation has become a politically inspired academic lemming run. Education becomes the scapegoat behind which politicians can hide. Millions of dollars are being spent to prove the existence of problems which educators have always known. The money should be used to solve some of the problems.

There remains a high degree of public confidence in the nation's educational system and teachers. A poll by Cantril Research, Inc. (65, 1978, p. 33) reported that even citizens opposed to raising more money for schools through property tax increases, express a high degree of confidence in teachers, but less confidence in school boards. National Education Association President, John Ryor (65, 1978, p. 339), interpreted this to indicate an anti-government rather than an anti-education thrust.

The disastrous test results in Florida prompted a massive remedial program. Educators around the state are generally pleased with the results, despite all the bad publicity which followed the release of information that so many students had failed. Frank Farmer (34 1978, p. 197), Associate Superintendent for Curriculum in Tampa-Hillsborough County, reveals,

> When the smoke cleared away, we had a pretty good picture of where we should direct remedial instruction. The test provides a good checkpoint because, in the past, schools have tended to ignore those students in the gray area between low-average and handicapped. We can't do that now.

Literacy testing in Florida produced other suggestions which have far-reaching implications. The school boards associations proposed basic skill tests for teachers and more rigid controls on teacher unions to the Florida legislature (102, 1978, p. 557). The tests would be utilized to screen teacher applicants. Teachers in the system who could not pass the basic skills test would be required to complete one year of remedial instruction. Teachers who could not pass the test after the one year remedial course would lose their tenure and local school boards would then decide the fate of the teacher.

Other states have begun to look at competency testing in a more critical light. The full impact of the competency mandate does not become obvious until testing is actually completed and public reaction assessed. Since most programs are under development, the districts and states have not been required to face the problems experienced by Florida.

Minnesota studied requirements for competence in reading, writing, computation, speaking and listening for high school graduation and appeared to be ready to adopt competency requirements. The state board abandoned the project because, according to board president, Henry Tweten (73, 1978, p. 318), "People have to have more than basics to function."

Education U.S.A. (71, 1978, p. 162) reports that competency standards are in trouble in Oregon. A task force set up by the state legislature recommends the competency standards be dropped. It is felt, by the task force, that the standards are inappropriate for high school and should only be used in elementary school, if at all. The State Department in Oregon plans no changes in the requirements until at least the 1979-80 school year. Even though teachers are generally opposed to the competency requirements, and even though only marginal students are affected by them, there is still a feeling that "Oregon's grand experiment in changing its high school graduation requirements was worth it" (77, 1978, p. 300). Some educators feel that the chief benefit is that teachers have been more conscientious with students and curriculum.

Oregon was the first to require competencies by law and will graduate the first group of seniors in 1979. The student failure rate is expected to be as low as 1 percent. Many of the students expected to fail would have lacked credits and not graduated in any case.

The conclusion reached by the National Assessment of Educational Progress at their seventh annual assessment conference was, "There is no unaniminity on the value of minimal competency testing" (91, 1977, p. 323). Most of the programs are too new and untested for anyone to draw long-range conclusions. The tests produced a wealth of goals, standards, and objectives and have caused educators to make a more thorough investigation of curriculum and teaching methodology. This was certainly a benefit. The tests have not been shown to

increase the dropout rate, nor have the examinations raised the national standard of literacy. Critics abound, but only time and experience can provide a true picture of minimum competency education and its effect on the school children it was designed to help.

In Nevada, competency testing was established in the public schools as early as 1900. The testing continued until the 1940's when it was abandoned. The Nevada State Department of Education (16, 1976, p. 2) claims the reason the statewide testing program was abandoned was due to the increased numbers of students entering the public schools of Nevada, which caused difficulty in administering the examinations to each eighth grade pupil in the State.

The first Nevada tests were developed and administered by the State Department of Education. In later years the tests were purchased from test publishers. During the 1930's testing in Nevada involved the use of the Stanford Achievement Test and the Otis Intelligence Test.

The early competency testing in Nevada was replaced by a State course of study. The course of study was accepted as the standard for the State in 1934, was revised in 1963, and was revised again in 1973. The present Nevada Graduation Requirements document (67, 1973, p. 5) requires that students complete 9½ units of work in required subjects and 9½ units in elective courses. The requirements are based upon the Carnegie Unit which is essentially a unit of time with no minimum competency requirements.

The Nevada State Department of Education (16, 1976, p. 4) completed a study of competency requirements in 1976 which included a

search of the Nevada Revised Statutes and established the State Department of Education as having the authority and the duty to set standards for issuance of high school diplomas based upon competency measures.

The Nevada State Department of Education (16, 1976, p. 7) also determined, through questionnaire, that the diploma in Nevada was held in low esteem as an indicator that the recipient had acquired satisfactory skills in mathematics, reading, speaking, and writing. Eighty-one percent of respondents indicated that they were in support of the establishment of policies and regulations which would require students to demonstrate certain minimum skills before being awarded a high school diploma. As a result, a special group was organized to study minimum competency. The first competency study established the need for competency measures and public acceptance of competency requirements. The second group, called Task Force I, defined the competencies and established proficiency levels for mathematics, reading, and writing. The mission of Task Force I was to prepare a list of basic competencies in the subjects deemed necessary before receiving a high school diploma, and to provide a statement of the required proficiency levels for each competency. Task Force I consisted of thirty-five classroom teachers appointed by the various district superintendents.

Task Force II was the third group appointed to assist in the completion of the competency-based high school diploma program. Its purpose was to develop measurement and policy recommendations for the

State Board of Education to consider in establishing regulations requiring students to demonstrate minimum competency in mathematics, reading, and writing--in addition to successfully completing the required Carnegie Unit subject requirements, prior to the receipt of the high school diploma.

Task Force II was made up of educators from all learning disciplines and represented every county school district in the State.

The Competency-based High School Diploma Program (17, 1977, p. 1-45) was completed and presented to the Nevada State Board of Education in June 1977.

The work of the State Department of Education was not yet completed when the 1977 Nevada Legislature began hearings and debate on minimum competency. Six bills on competency were presented for consideration, and, Assembly Bill 400 was passed into law.

The law (NRS 389.015) which sets minimum competency standards, requires the State Department of Education to establish minimum standards for reading, writing, and mathematics. The law also provides that local school districts must test for minimum competency. Remediation is mandated for all students who fail to demonstrate competence in grades 3, 6, 9, and 12 and denies a diploma to those twelfth grade students who cannot demonstrate minimum competency.

Some controversy has surrounded the new competency law. The State Legislature did not provide funding. This made it difficult for the State Department to complete the task of developing competency testing, as well as for local school districts to follow

through with the mandated testing. As an interim means, the State Department prescribed the use of selected normative-referenced tests until cirterion-referenced measures could be developed.

The first high school students required to complete competency testing are students scheduled to graduate in 1982. As the first testing approaches, many questions remain unanswered. State Department personnel expect the 1979 legislature to clarify ambiguous provisions in the law and to provide funds for implementation.

XI. COMPETENCY PROGRAMS

The competency movement has assumed three separate modes or designs: basic life skills, competencies, and school skills.

One faction in the competency movement places emphasis on basic life skills, minimum competency based upon life skills necessary for survival in the adult world. Skills to be learned might include such tasks as reading a map, checking a book out of the library, understanding a bus schedule, or shopping at a supermarket. These adult life skills are an important part of evening and summer school programs designed for post-high school adults who are unable to cope with life situations because of lack of specific survival skills essential in our society.

The second faction deals with competencies. These competencies may be described as job skills required to earn a living. They include skills required for the laborer and the professional examinations which must be passed before becoming licensed to practice teaching, law,

medicine, or architecture. In this sense competency becomes skills necessary to perform in the world of work and to earn a living through the special application of extraordinary skills.

The third faction in the competency movement--school skills--addresses itself to the identification and remediation of deficiencies in basic subjects, usually reading, writing, and computational skills. These minimum competencies are considered to be necessary basic skills which must be acquired before graduation from high school. Some educators contend that these basic minimum competencies should be learned in elementary school and constitute the minimum foundation upon which all other education is established.

In the public schools basic minimum competencies or school skills are the foundation to all learning, and form the basis for this study. Most students attain minimum competency before completion of the fourth or fifth grade and proceed to learn other essential skills. For many students there seems to be a cessation of learning before basic levels are achieved. Many graduate from high school without obtaining the basic minimum competencies in reading, writing, and mathematics.

Thirty-one states have mandated that students must meet minimum competency requirements being implemented in the United States as educators struggle to discover the answers to complex questions about how children learn. In essence most of the programs are the same, some system has been designed to identify those learners with deficiencies and to remediate deficiencies before high school graduation. The emphasis, in almost every case, is upon basic education. In fact,

this part of the competency movement has been called "back to the basics".

Education U.S.A. has compiled a special report, The Competency Challenge: What Schools Are Doing (37, 1978, p. 1-96), which updates the competency movement. The American Association of School Administrators' Critical Issues Report (66, 1978, p. 1-92) also provides a thorough analysis of the movement. One of the most ambitious and detailed sources of information can be found in Competency Based Education Sourcebook (15, 1977, p. 1-172) published by the Northwest Regional Educational Laboratory through their Competency Based Education Program. The Sourcebook can be used to locate the various competency programs across the country.

New York State, Denver, Colorado, and the State of Oregon have provided leadership in the competency movement. Of particular note is the work done in the Parkrose School District, Portland, Oregon (14, 1976, p. 9). A complete K-12 curriculum consisting of behavioral objectives has been assembled and implemented. This ambitious program is not without problems and some opponents are challenging the right of the district to deny a diploma to those who fail to achieve the prescribed competencies.

One of the most controversial programs is the previously mentioned functional literacy testing program in Florida (14, 1976, p. 9). Students in large numbers failed to pass the functional literacy test. Opponents of the testing, particularly minorities, branded the program as "unfair". Many educators feel the problems can

only be settled in the courts.

As previously mentioned, perhaps the most straightforward program involved the elimination of social promotion by school superintendent Sam Owen (39, 1976, p. 1). With the backing of a tough school board, Owen retained students who could not demonstrate grade level achievement in his Virginia school district. After weathering a storm of protest, the program proved to be successful as indicated by higher test scores and a lower dropout rate for the district's children.

One of the few complete high school programs which has been developed can be found in the Westside School District, Omaha, Nebraska (14, 1976, p. 8). Students must demonstrate competency in all required areas, including consumerism before they are granted a high school diploma.

At Eldorado High School, Las Vegas, Nevada a program involving minimum competency has been under development for over five years. The program, at present, deals only with basic minimum competency in reading, writing, and mathematics. The ultimate goal is to establish a minimum competency program for every class taught in the curriculum.

XII. SUMMARY

The competency movement has been firmly established in American education during the last decade. Criticism of the schools, which precipitated a taxpayer revolt, caused educators to struggle to introduce some system of accountability in the schools.

Accountability formed the initial stages for the development of the competency movement and was accompanied by pressure to return to the "basics" in education. It is doubtful whether students learned more in the "good old days", but today's schools which emphasize the basics have become popular.

Adding to knowledge about student achievement, the National Assessment of Educational Progress published reports from a nationwide survey. Students and adults in four age groups, from every region of the country, and from every socio-economic class were tested on ten areas of learning. Results of the surveys have been mixed, but it is generally conceded that students should be learning more.

Another massive national study, The Coleman Report, also indicated a decline in student abilities in the United States. An interesting discovery from this report was that the child himself and not teachers or resources had the greatest influence upon the learning of students in the school.

Declining test scores by students taking college entrance examinations added fuel to the controversy surrounding student achievement. The scores on the college entrance tests have declined for nearly twenty years. A NASSP study of high schools disclosed that schools which refused to change during the "innovative 60's" and maintained traditional standards of attendance, discipline, and achievement did not experience declines in college entrance test scores.

Testing was a major issue and the use of normative-referenced

tests was criticized. A Newer method of testing, the criterion-referenced test, was presented as the answer to the problem of how to effectively measure student achievement. Also necessary to testing and minimum competency was the establishment of goals and standards for learning.

At least thirty-one states passed laws or regulations concerning competency, which have to do with literacy, or, more specifically, functional literacy--the ability to read, write, and compute at the functional level. Some educators consider functional literacy as the level of minimum survival in our modern society. Even possessed of functional literacy, it is doubtful that high school graduates would be able to compete in a job market governed by the technologies of our modern age.

When the State Legislature or the State Department of Education mandates competency and establishes standards to be achieved, the battle is not over. The failure rate on fuctional literacy tests administered in Florida were labeled a national scandal and the courts have taken up the problem. As deadlines for establishment of minimum competency programs are reached in other states, the controversy expands.

In Nevada, the first high school students to be tested will respond to a basic skills test mandated by the 1977 legislature. Students who do not demonstrate minimum competency must receive remedial help and will not be granted a diploma unless basic skills can be demonstrated before graduation.

The competency movement, widespread in the United States, deals with competencies thought to be essential for survival in our society. Basic school skills or minimum competencies considered to be necessary as a foundation for learning constitute the focus of this study.

Minimum competency is the task of the public schools and educators have accomplished a great deal. Some notable programs are now in operation; one such program, under development for more than five years, can be found at Eldorado High School, Las Vegas, Nevada.

Chapter 3

PROJECT DESIGN

I. INTRODUCTION

National and local testing of school children revealed deficiencies in the preparation of high school graduates. The report of these deficiencies in the media produced pressure to set standards of minimum competency for high school graduation.

The "accountability movement" originated in the midst of the controversy over the decline in student achievement. In some instances, the accountability of the schools was tested in the courts when parents charged the schools with malpractice because their children had not achieved a basic education during their years in school, despite the fact that a high school diploma had been issued.

The "accountability", "back to the basics", and "competency movements" led state departments of education and state legislatures in at least thirty-one states to adopt regulations or laws which mandated standards for minimum competency.

In the State of Nevada, Assembly Bill 400 was enacted during the 1977 legislative session. The law--NRS 389.015--provided for testing of school children in grades 3, 6, 9, and 12 and requires seniors to pass a proficiency examination in reading, writing, and mathematics to qualify for a diploma upon graduation from high school.

State mandated standards of minimum competency and public pressure to provide students with at least the basics before high school graduation made it imperative that a new high school minimum competency program be designed and implemented before the law takes effect. Members of the graduating class of 1982 will be the first group of Nevada high school students who must demonstrate minimum competency to qualify for a high school diploma upon graduation.

II. IMPLEMENTATION

The following steps were taken in the implementation of this study:

A. A comprehensive review of literature related to accountability, basic education and minimum competency was completed.

B. A study of the background for the project was completed, including collection of demographic information about students, teachers, and adults involved in the program at Eldorado High School.

C. The design, in five processes, of a model for a high school minimum competency program replicable in other high schools including--

1. An analysis process, which involved a study of standardized intelligence and achievement test scores and administration of a questionnaire about minimum competency.
2. A developmental process providing for goal setting and establishment of minimum competency standards, design and selection of testing instruments for

reading, writing, and arithmetic, staff inservice, articulation with feeder junior high schools, and design of remedial courses.

3. An implementation process which established testing for diagnosis and placement and organization of specialized remedial courses.
4. An evaluation process for analysis of student testing utilizing both normative-referenced and criterion-referenced tests, interviews with students and teachers, and results obtained in pre- and post-testing of students.
5. A dissemination process which involved a program to make information about the competency model available to educators.

III. ANALYSIS OF DATA

Early in the competency movement the use of standardized normative-referenced achievement and intelligence test scores were the only measures available to determine student competency. More recently, criterion-referenced tests were developed as specific measures of student achievement. These newer measures have allowed educators to more accurately diagnose student learning difficulties and to prescribe remedies to correct identified deficiencies.

Normative-referenced test results allow for comparison of the population at large and establishment of national norms as a guide in

curriculum revision and the establishment of standards of competency. They do not provide an accurate measure of individual student achievement.

The criterion-referenced test allows for diagnosis of individual learning deficiencies and permits the educator to prescribe means for remediation of identified deficiencies.

The foundation for this study involved the following:

A. Analysis of standardized normative-referenced achievement and intelligence test scores.

B. Selection or design and implementation of criterion-referenced tests for mathematics and language arts.

C. The use of test results to diagnose deficiencies and to prescribe remediation programs for learners.

D. The use of test results to evaluate the success of the minimum competency program.

IV. AVAILABILITY OF RESOURCES

The resources required for completion of the study of minimum competency were readily available from various sources in the local area. It was expected that everyone would cooperate in searching for answers to questions about the establishment of minimum competency.

A comprehensive review of the literature was available from the university libraries at University of Nevada, Las Vegas, and University of Nevada, Reno.

Results from standardized normative-referenced tests were

available through the Clark County School District Department of Research and Development. Percentile ranks were available for the purpose of comparing national and local test scores.

Preliminary minimum competency standards were established through the efforts of Nevada State Department of Education personnel, statewide task force personnel involving lay and professional participants assembled to study minimum competency, and Clark County School District course syllabi. Based upon the standards set by this task force for reading, writing and mathematics, and CCSD syllabi, the staff at Eldorado High School, Las Vegas, Nevada was able to construct or select commercially produced criterion-referenced tests in order to diagnose and prescribe in the area of minimum competence.

Eldorado High School personnel provided the expertise to select and/or design adequate measures for evaluation of students.

The Eldorado High School Competency Program under development since 1973 was expected to be fully implemented before the graduating class of 1982 is tested for minimum competency. The goal established for the project was the design of a minimum competency program to help insure that every high school graduate, within the limits of capability, qualifies to receive a standard high school diploma upon graduation. A further goal was to re-establish the diploma as signifying achievement of at least minimum competency in reading, writing and mathematics. The achievement of the goals was realized in the design of a replicable model for minimum competency.

Chapter 4

PRESENTATION AND ANALYSIS OF THE DATA

I. INTRODUCTION

The purpose of this study was to design a replicable model for implementation of a high school minimum competency program in mathematics, reading, and language arts. Nevada Revised Statute 389.015 mandates that students pass tests of proficiency in reading, writing, and mathematics to qualify for graduation from high school beginning with the class of 1982. The law also provides for the remediation of students who fail to demonstrate minimum competency when tested at grades 3, 6, 9 and 12.

The collection of data completed during a period of five years provided a background on the conditions under which the research design was developed and established the necessity for a minimum competency program at Eldorado High School, Las Vegas, Nevada.

III. BACKGROUND FOR THE STUDY

Eldorado High School, Las Vegas, Nevada is located in a suburban neighborhood which serves a highly transient population, including the personnel assigned to Nellis Air Force Base and a large trailer park community. New housing developments created changing conditions and rapid growth.

Eldorado High School was originally designed to accommodate

1,785 students but has had a student enrollment over capacity during most of the time the school has been in operation. A remodeling project to be completed in 1979 was designed to increase the enrollment capacity to approximately 2,500 students.

The Eldorado High School community, considered to be one of the lowest socio-economic residential areas in Las Vegas, has received a disproportionately low share of dollars spent on recreation and other community services.

A survey completed for Northwest Accreditation in 1976 found students interested in mostly vocational pursuits. Less than 20 percent indicated a desire to attend college.

In a more recent questionnaire survey completed in 1978 as part of this study, 46.7 percent of students surveyed stated they planned to attend college while 34.5 percent planned to work after completing high school. There were 10.7 percent of students who planned to attend trade or technical school, 3.7 percent planned to marry and 4.4 percent had made no plans for after high school.

Table 1 reveals a degree of grade inflation as demonstrated by the questionnaire reported grades received by students in mathematics and English. Nearly half of the students received A and B grades.

Parents who responded to the questionnaire were mostly high school graduates--76.9 percent--and 29.5 percent had attended college; nearly 70 percent stated that they received A or B grades in mathematics and English courses.

Table 1. High School Mathematics and English Grades Received by Students, Teachers and Parents as Indicated by Questionnaire Response.

Mathematics Grades

Students			Teachers			Parents		
Grade	Number	Percent	Grade	Number	Percent	Grade	Number	Percent
A	166	14.9	A	25	30.9	A	61	20.7
B	360	32.3	B	39	48.2	B	139	47.1
C	467	41.9	C	15	18.5	C	84	28.5
D	106	9.5	D	1	1.2	D	10	3.4
F	15	1.4	F	1	1.2	F	1	.3

English Grades

Students			Teachers			Parents		
Grade	Number	Percent	Grade	Number	Percent	Grade	Number	Percent
A	158	14.2	A	30	37.0	A	63	21.8
B	389	34.8	B	31	38.3	B	133	46.0
C	436	39.0	C	19	23.5	C	83	28.7
D	107	9.6	D	1	1.2	D	9	3.1
F	27	2.4	F	0	0.0	F	1	.3

The teaching staff at Eldorado High School was well prepared. All of the teachers had college degrees and nearly 70 percent had attained advanced degrees. Most of the teachers also achieved well in their high school mathematics and English courses.

The school plant provided a modern comprehensive high school design. Completed in 1973 at a cost of over 6 million dollars, the school houses students in grades 9 through 12. The design of the building limits vocational education, but an attempt has been made to provide for the focational needs of the student body through emphasis on careers, work study, and additional vocational and industrial courses. The vocational program includes offerings in woodshop, metalshop, auto shop, agriculture, ROTC, home economics, business and cooperative work experience. A program for vocational photography has been designed and will be implemented when funding becomes available.

III. REVIEW OF RELATED LITERATURE

A review of the related literature revealed a national concern about accountability in education and a demand for a "back to the basics" approach to learning. The public clearly indicated a loss of confidence in the educational community and the abilities possessed by students upon completion of high school. The "back to the basics" movement and demands for accountability in education were factors which caused educators to initiate programs for minimum competency in over thirty-one states. These laws and regulations mandating programs

for accountability in education reflect the dissatisfaction of the public with pupil achievement.

A substantial part of the problem of underachievement seems to center in the lack of goals or standards for education. Clear-cut standards are difficult to find and there has been a reluctance on the part of educators to set standards.

Testing has been identified as an important, but controversial, feature of most minimum competency programs. The widely used normative-referenced tests have come under fire from educators and have been labeled as discriminatory and inadequate indicators of student ability and achievement. The more modern criterion-referenced tests have been held to be a more acceptable form of testing to determine levels of student achievement.

In Nevada, the State Department of Education organized special task forces composed of educators and community leaders to establish standards for minimum competence. At about the same time, the 1977 Nevada Legislature passed NRS 389.015 which mandated that students must be able to demonstrate proficiency in reading, writing and mathematics before graduation from high school.

IV. THE MODEL FOR MINIMUM COMPETENCY

Eldorado High School opened for instruction in 1973 after a one year developmental period. A comprehensive high school program was designed and implemented along with such innovative practices as non-gradedness, emphasis on careers, a teacher advisor program, and a

freedom of choice registration system. The instructional program proved to be ineffective when applied to the Eldorado High School student body and after one semester a complete reorganization was undertaken. Studies were initiated to ascertain the causes of the learning problems and to design new programs to meet the needs of students.

The Eldorado High School minimum competency model (figure 1) can be viewed in five processes: One, analysis of conditions and the problem to be solved, Two, development of materials and programs, Three, implementation of the program, Four, evaluation and, Five, dissemination of the model to others needing the information.

Process One - Analysis

Normative-referenced group testing. The Clark County School District group testing of high school students utilized the Otis-Lennon Test of mental ability to provide a measure of potential through a Standard Achievement or intelligence score and a measure of student achievement through use of the Iowa Test of Educational Development. Normative-referenced and intelligence test information, though considered to be unreliable measures of student potential and individual student achievement, constituted the school district testing program and were the only instruments available. Test information included data for tenth grade students collected from 1973 to 1978.

Analysis of test results. Analysis of Eldorado High School test results revealed apparent student underachievement when Standard

ELDORADO HIGH SCHOOL MINIMUM COMPETENCY MODEL

PROCESS ONE, ANALYSIS

NORMATIVE REFERENCE GROUP TESTING	ANALYSIS OF TEST RESULTS	STUDENT INDEX INFORMATION	STUDENT TEACHER AND PARENT QUESTIONNAIRES

PROCESS TWO, DEVELOPMENT

ESTABLISH GOALS AND OBJECTIVES	CRT TEST DESIGN AND/OR SELECTION	STAFF INSERVICE	STAFF AND STUDENT INTERVIEWS

PROCESS THREE, IMPLEMENTATION

STUDENT PLACEMENT PROFILE	DIAGNOSTIC TESTING	SPECIALIZED COURSE DESIGN	YEARLY PLANNING

PROCESS FOUR, EVALUATION

PRE AND POST TESTING	STUDENT INTERVIEWS	STAFF INTERVIEWS	ADMINISTRATIVE REVIEW AND PROGRAM REVISION

PROCESS FIVE, DISSEMINATION

PUBLICATIONS	VISITATIONS	PRESENTATIONS

Figure 1. The Eldorado High School Minimum Competency Model.

Achievement (intelligence) test scores were compared with achievement test scores. (The scores obtained from the testing are illustrated in Table 2.) The same pattern of underachievement was also indicated by the combined school district test scores. The Standard Achievement (intelligence) test scores for the Clark County School District were above the national average, but the achievement levels were considerably below the levels of expectation.

Student potential at Eldorado High School, as indicated by the Standard Achievement (intelligence) test scores were below the national average and below the school district average during the 1973-74 school year.

During the 1974-75 school year Eldorado tenth grade students tested 6 percentile ranks below the Clark County School District and 8 percentile ranks below the national average, as measured by the Otis-Lennon Standard Achievement Test. Underachievement in total reading was 6 percentile ranks below expected levels, compared with 4 percentile ranks for the school district in total reading achievement according to the Iowa Test of Educational Development.

The pattern of underachievement in 1975-76 was similar. The Clark County School District was 2 percentile ranks above the national average in Standard Achievement (intelligence) and Eldorado was 10 percentile ranks below the national average. Eldorado underachievement was 1 percentile rank below the expected level but was 8 percentile ranks below the district. The district underachievement in total reading was 5 percentile ranks. Eldorado mathematics achievement

Table 2. Comparison of Test Scores for Eldorado High School and the Clark County School District.

Year	Location	S/A	Percentile	Reading Comp.	Reading Vocab.	Total Reading	Language Usage	Spelling	Total Language	Math	Use of Sources	Composite
Otis-Lennon Mental Ability Test and Iowa Test of Educational Development Percentile Scores												
1973-74	Eldorado	100.8	*	*	*	41	25	30	27	35	37	30
	CCSD	101.3	*	*	*	50	38	32	34	46	45	43
1974-75	Eldorado	98.2	46	39	37	42	35	27	30	42	36	37
	CCSD	100.00	50	41	50	45	35	30	32	44	42	38
1975-76	Eldorado	98.8	47	34	44	41	34	38	35	45	42	42
	CCSD	101.2	53	41	50	49	40	43	42	50	46	48
1976-77	Eldorado	96.0	40	32	42	39	19	31	21	42	35	32
	CCSD	100.6	52	39	49	47	37	42	40	49	44	47
1977-78	Eldorado	97.0	43	31	41	35	31	29	32	41	35	*
	CCSD	100.6	52	38	48	45	38	43	40	49	45	*
California Achievement Test Percentile Scores												
1978-79	Eldorado	*	*	44	44	43	41	38	40	46	39	41
	CCSD	*	*	50	50	50	47	44	46	48	46	46

* Scores Not Available

was 2 percentile ranks above expected levels and the district 3 percentile ranks below, but Eldorado was 7 percentile ranks below the district in mathematics achievement.

The 1976-77 Standard Achievement (intelligence) test results found Eldorado 7 percentile ranks below the national average and 7 percentile ranks below the district. School district underachievement was 8 percentile ranks in total reading and 2 percentile ranks in mathematics. Eldorado was 10 percentile ranks below the district in total reading and 8 percentile ranks below in mathematics. The pattern of low Standard Achievement (intelligence) test scores was sustained throughout the period that tests were available.

The school district testing program was changed during the 1977-78 school year. No provision was made to test for Standard Achievement (intelligence) and the testing program utilized the California Achievement Test battery. Results obtained from the California Achievement Test battery indicated a trend of continued underachievement when scores for the school district were compared with Eldorado High School test results; however, the differential between the school district and Eldorado High School was narrower.

Achievement in total reading was 7 percentile ranks below the district, which tested at the national norm, and 2 percentile ranks below the district in mathematics. The district was 2 percentile ranks below the national norm.

The normative-referenced measures previously mentioned provide some indication of school potential and achievement, but are considered

by some experts in education to be totally inadequate as specific measures of individual student achievement.

The normative-referenced test results indicated how well students in the school achieved when compared with each other, with the school district, and with national standards, but a more accurate measure was needed to diagnose and prescribe for individual students.

Student index information. Information about students, including available test scores and grades, was entered in the school district computer which produced a student index reported in stanines. Students who placed in the first 3 stanines were considered to be low achievers and in need of remedial help.

The district utilized the index scores to help establish the need for specialized programs available through Title I federal funding. The index scores were also utilized at Eldorado to help identify students needing remedial help and to provide additional indicators in the proper placement of students. Approximately one-third of Eldorado students had index scores of 1 and 2, and nearly half the students had index scores of 3 or below. This information helped identify the dimensions required for the minimum competency program.

Student-teacher-parent questionnaires. A questionnaire (see Appendix A) was designed and administered to determine the opinion of students, teachers, and parents about minimum competency and to ascertain the level of support which was available within the school and the community. A field test was conducted at Rancho High School,

Las Vegas, Nevada before administration of the questionnaire at Eldorado High School. Low-level English and mathematics classes were selected to determine if the questions were understandable and if the reading level was within the capability of most students. Rancho teachers were also asked to provide their reactions to the questionnaire. As a result of the field testing the language of the questionnaire was simplified and the instrument shortened.

A decision was made to administer the questionnaire to every student in attendance at Eldorado High School on a day in late May. There were 1,134 student questionnaires completed and returned for the study. The actual enrollment on the administration date was 1,710 students. No attempt was made to follow-up on students who were absent or who were not enrolled in the English, history, or government classes where the questionnaire was administered.

A letter explaining the survey instrument and a questionnaire was sent home with every student who completed the study. A follow-up appeal for parents to respond was made through a newsletter. There were 298 parents who completed and returned the instrument.

Teachers completed the questionnaire during a faculty meeting. The 82 teachers and counselors returned completed forms.

The final return on the questionnaires represented 100 percent of the teachers, 66 percent of the students enrolled, and 25 percent of the parents who received a survey instrument. The student population was almost evenly distributed between each of the four high school grades with 27.6 percent freshmen, 23.7 percent sophomores, 26.7 juniors and 21.8 percent seniors.

The area of competency most associated with the school setting is basic school skills. These minimums are usually defined in terms of reading, writing and mathematics. The majority of the questionnaire deals with areas concerning minimum competencies and the opinion of students, teachers, and parents relative to basic skills.

The questionnaire was designed to ascertain the level of support for minimum competency and the degree to which the standards for minimum competency should be applied.

A comparison of the means obtained from analysis of the responses to questions 11-32 indicated support for a "back to the basics" approach and for holding students accountable for basic skills. In fact, as illustrated in Figure 2 only question 32 fell below the "agree" and "strongly agree" mean which indicated that those who responded felt that sixth grade level was not sufficient as a standard for minimum competence. In all other catagories support for basic skills requirements and for holding students accountable was in evidence. Responses indicated that students should be required to master minimal skill levels and that success in adult life is connected to achievement of basic skills.

A general study of the questionnaire data indicated differences in the degree of acceptance for the minimum competency program by students, teachers and parents. Teachers and parents would generally apply more rigid standards for minimum competency than students. All of the groups agreed that minimum competency programs are important and necessary and that standards should be established and enforced.

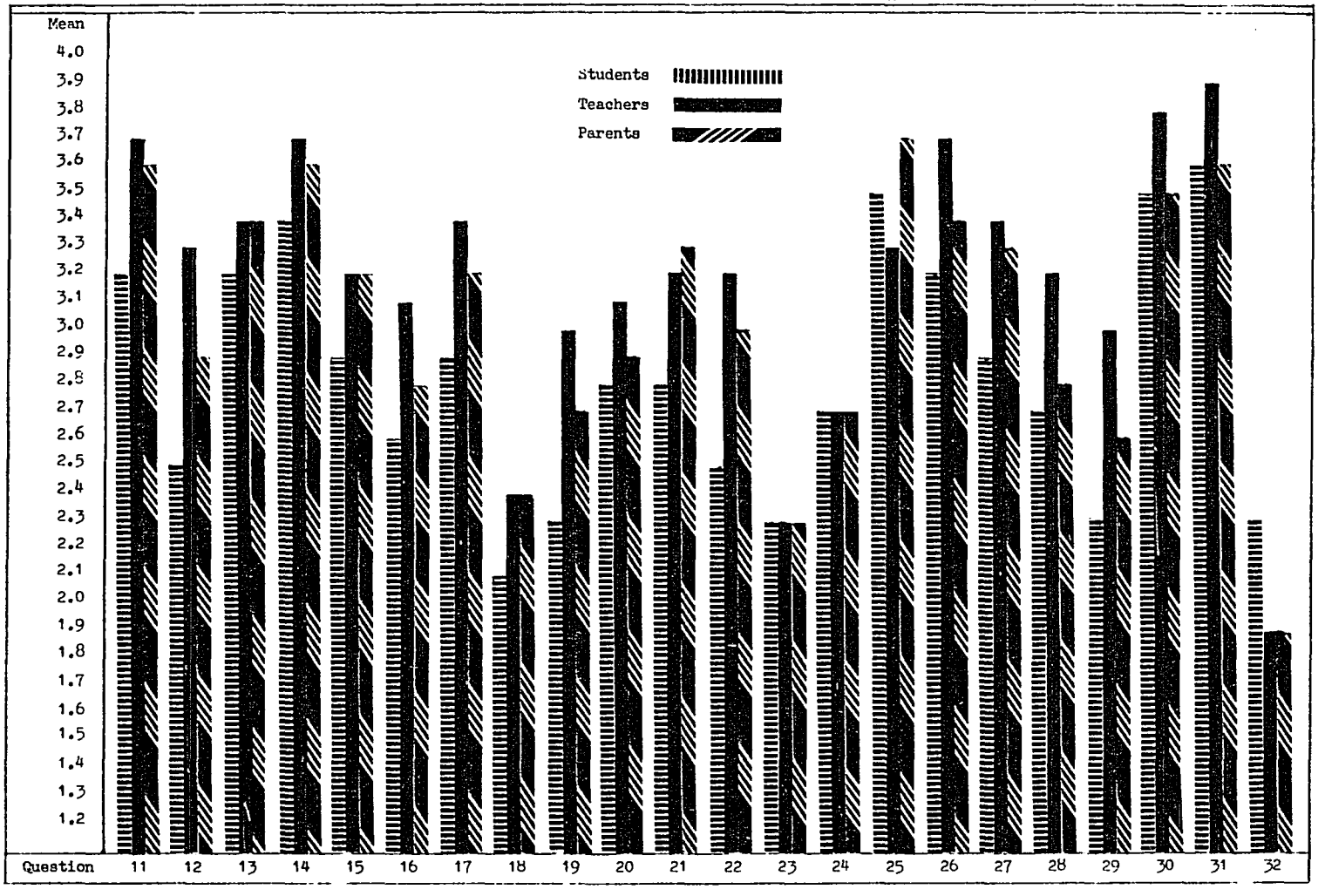

Figure 2. Comparison of Four-point Likert-scale Means of Opinions of Students, Teachers, and Parents Concerning Minimum Competency.

There was agreement regarding accountability for failure to achieve minimum competence. Students, teachers and parents responding to the questionnaire held students responsible for failure to learn basic skills.

All three groups agreed that state tax money should be the source of financial support for remediation of students.

The opinion of students, teachers and parents was that remediation should occur during the regular school day in place of electives. This seemed to further indicate a desire on the part of the public to support a basic education program with fewer "frills". The literature indicates this same trend.

Question 11 dealt with the necessity of the law which mandates that students achieve minimum competency before graduation. The student response to this question was skewed heavily to the right toward "agree" and "strongly agree". This same pattern of response was also exhibited by teachers and parents.

Question 12 dealt with grading standards and student learning. Student answers tended toward the middle of the scale with about equal numbers choosing "disagree" or "agree". The teachers' answers favored "agree" and "strongly agree" as did the answers given by the parents.

Teachers and parents concur that the student cannot expect to be successful in adult life if he/she has not mastered basic skills. The student-teacher opinions are closer to agreement than the student-parent comparison. In all the groups the answers were skewed heavily to the right indicating that students, teachers, and parents feel that

mastery of basic skills is essential to success in adult life.

It was teachers and parents who demonstrated the highest degree of affirmation when asked if every high school graduate should be able to pass a test of basic skills.

When asked to speculate that approximately one-third of the present high school graduates lack basic skills, the parents and the teachers agreed, but students were less willing to agree.

In answering Question 16 the groups were asked if students who complete twelve years of schooling should not be denied a diploma even if they cannot pass a test of basic skills. "Disagree" was the answer given by the largest number of respondents in all three groups. This seems to indicate that a majority of those who answered the question felt that the diploma should be denied to those who cannot demonstrate minimum competency.

Question 17 sought the opinion of students, teachers, and parents regarding promotion of students from one grade in school to the next if they cannot pass a test of basic skills. The answers given by a majority of the respondents in all three groups indicate that they disapprove of passing students from one grade in school to the next if they cannot pass a test of basic skills. Parents and teachers were most similar in their answers.

As to whether requiring students to pass a test of basic skills before graduation would increase the dropout rate, students seemed to agree. Teachers and parents were divided in their opinion, and their answers were so evenly distributed that we cannot say that parents or

teachers agreed or disagreed. The students were more prone to believe that strict standards would increase the dropout rate.

Can it be assumed that presently those who receive a high school diploma have mastered basic skills? In answering Question 19 the students were more likely to agree. Teachers generally disagreed. Parents were more evenly divided in their opinion.

Question 20 asked if a skill test should be required for every course which the State requires for graduation. Students, teachers, and parents agree that this requirement should be mandated.

Teachers and parents seemed to agree that tests of basic skills should be given to students every year that they are in school. More students favor the testing but the percentage of those who do not is greater than teachers or parents who do not.

Question 22 dealt with whether students should be allowed to enter high school if they cannot pass a test of basic skills. The opinion of students is evenly distributed and as many students agree as disagree. This differs from the opinions expressed by teachers and parents who would be more strict in allowing students to enter high school.

Question 23 asked if students who cannot pass a test of basic skills should not be allowed to take part in school activities such as athletics, sports, clubs, student council, etc. The largest numbers of respondents in all three groups favored allowing students to participate even if they cannot pass a test of basic skills, but the answers of teachers and parents were almost evenly divided between each

of the four responses. Students were more in favor of allowing participation than were the adults.

In regard to the question, "A paper and pencil test is a good way to determine student's basic skill levels", answers were very similar for all three groups of respondents, being evenly distributed between "agree" and "disagree" with but a slight margin favoring the use of the pencil and paper test.

The majority of teachers agree that they should be required to pass a test of basic skills before being allowed to teach. The opinion of teachers and students correspond. Parents differed from students and teachers only in the fact that they selected "strongly agree" more often than the other two groups. It would seem that all three groups, and especially parents, feel that teachers should be required to pass a test of basic skills before being allowed to teach.

Question 26 asked students, teachers and parents to decide if adults do not need basic skills in reading, writing and mathematics. A majority of respondents in each of the three groups chose "disagree" or "strongly disagree" for this question which indicates that most believe that adults DO need the basic skills of reading, writing, and mathematics. Teachers tended to choose "strongly disagree" more than the other groups, and larger numbers of students chose "ageee" more than teachers or parents. The closest agreement was between teachers and parents, and between students and parents.

Students, teachers and parents were in agreement that students should remain in remedial instruction until they can pass tests of

basic skills. Students selected "agree" or "strongly agree" most often on this question, but not as often as teachers or parents.

Question 28 suggests that more mathematics courses should be required before graduation. The Clark County School District required only one mathematics course for graduation and the State of Nevada has the same requirement. Students, teachers and parents favor the addition of mathematics courses for graduation. Teachers chose "agree" and "strongly agree" more than did students or parents; the opinions of students and parents were more in agreement than students compared with teachers or teachers compared with parents.

Should more language arts--English and reading--courses be required before graduation? Three English courses was the existing requirement. The opinions concerning this question were mixed. The largest number of students who responded chose "disagree". Teachers "strongly agree", but "agree" and "disagree" were about evenly distributed. Parents, as their children, chose "disagree" more than the other answers. It would seem that the opinions are divided on this issue and the results were less definite, but teachers generally favored more English and reading being required while the students and parents did not.

Question 30 asks the respondents if they could pass a sixth grade level test of language arts basic skills. This question presupposed that most newspapers are written at about the sixth grade level. Most of the respondents answered that they thought they could pass a sixth grade level test of these English and reading skills.

Question 31 asked respondents if they thought they could pass a sixth grade level test of basic skills in mathematics. Examples from a sixth grade level test were included in the question. The answers given coincided with the responses to Question 30. Most of the respondents felt they could pass a sixth grade level mathematics test. Teachers register the highest degree of agreement while parents and students were less confident in their responses.

Question 32 asked if sixth grade level is high enough as a standard for basic skills required for graduation from high school. Each of the groups generally disagree that sixth grade level is high enough; students and teachers were more in agreement than were students and parents.

On all the responses to the questionnaire the respondents favored higher standards for minimum competency and enforcement of those standards upon the students who receive the high school diploma. The responses would indicate acceptance of minimum competency programs in the schools, including testing and remedial instruction. A comparison of the means of all the responses established a definite skew toward "agree" and "strongly agree" for most of the questions. Parents and teachers show the highest agreement in their responses, and students compared with parents, the lowest.

In summation, analysis of the available test data, information obtained from the review of literature, and opinions obtained through administration of the questionnaire clearly established the need for a minimum competency program.

Process Two, Development

Establishment of goals and objectives. Once the student population with skill deficiencies was identified and the necessity for a minimum competency program was clearly established, the next phase in the Eldorado High School minimum competency program was the establishment of goals and objectives and development of the testing and remedial program.

Standards established by the Nevada State Department of Education and syllabi developed by the Clark County School District formed the basis for the program, along with group decisions made by the language arts and mathematics departments at Eldorado High School. In most instances, arbitrary decisions were made because no acceptable standards could be identified. In mathematics it was decided that students should be able to perform manipulations of whole numbers, fractions, and decimals using addition, subtraction, multiplication and division; further, that students must be able to read graphs and charts related to mathematics. The language arts department adopted sixth grade reading achievement as acceptable, since local newspapers were found to be written at approximately that level. The writing of a standard paragraph was considered minimal in composition.

A design for lesson planning and preparation established parameters for each course. Approximately 60 percent of the course outline was to involve minimum cognitive skills required of all students. The remaining 40 percent could include additional cognitive, affective and psychomotor skills thought to be desirable. The design

for lesson planning and preparation can be found in Appendix B.

Criterion-referenced test design and/or selection. Central to the minimum competency program was the identification of skill deficiencies. This was accomplished through utilization of a testing program. In the process of developing the minimum competency program at Eldorado High School several types of tests were utilized. No adequate measure for mathematics achievement could be found, so the mathematics department at Eldorado accepted the challenge to develop a criterion-referenced test to measure mathematics achievement. The instrument was designed to provide information which would aid in the diagnosis of basic mathematics deficiencies. At the time the test was developed, it was one of the only measures available. The National Association of Secondary School Principals made reference to the test in their publication Minimum Competency and Graduation Requirements (1, 1976, p. 63) and requests for the test and information about minimum competency were received from many schools and school districts.

Test questions were designed to measure basic skills in mathematical operations accepted as minimum. The resulting test became the "Eldorado Basic Mathematics Competency Test" (see Appendix C).

Eventually, commercial testing companies developed criterion-referenced measures and the Stanford Diagnostic Test for mathematics was found to satisfy the needs of the minimum competency program at Eldorado High School. The commercial test was considered to be superior because it was written by professional test writers and had been subjected to normative and reliability studies. In 1977 the Clark

County School District adopted the California Achievement Test as an interim testing instrument to be used while criterion-referenced tests were being developed in compliance with NRS 389.015.

The state-mandated minimum competency tests were not administered in grade 9 until 1979. The first seniors to be tested will be in 1982 at which point a criterion-referenced test for reading, writing, and mathematics is anticipated.

An additional dimension was added to the development of the minimum competency testing program through the use of additional testing instruments. The testing provided valuable information about the students and the school and also was used to teach students how to take tests. It was important that the disadvantages of teaching the test not be permitted, but it was also important to teach students how to take tests and in so doing teach the information required by the tests. In this connection the SHARP test, developed for the Los Angeles School System, and the ASVAB (Armed Services Vocational Aptitude Battery) test provided by the armed forces was used.

Tests were also used to motivate students and to establish the need for minimum skills. The J.C. Penney employment test and the National Car Rental employment test helped fulfill the motivational requirements as well as indicate proficiency levels of students in remedial sections.

Staff inservice. The administration met frequently and ultimately generated the general guidelines for the development of a plan for high school minimum competency. An overall philosophy was

adopted which placed the needs of students as the highest priority, the needs of teachers as the next priority, and the administrative need or convenience as the lowest priority. Program development, student evaluation and placement, development of resources, and the ordering of time and events would be governed by the priorities. Administration would involve students and teachers to the maximum degree possible and would act as facilitator and motivator in program development.

Teacher inservice was an essential part of program development. A plan was developed to utilize the expertise of the Eldorado High School teachers in the establishment of standards for minimum competency, development of test instruments, selection of test instruments, design of remedial courses, and development of articulation between the high school and junior high schools.

The Eldorado administration applied to the school district for substitute teacher days in order to release teachers at the high school and feeder junior high schools for participation in inservice. The release of teachers during their regular hours proved to be one of the most productive aspects of the plan. Teachers became very task-oriented and saw the release as a reward for their efforts to provide quality education to students. This function could be more appropriately accomplished during vacation periods as an extra pay assignment.

It was discovered that Dr. Sam Bliss of Northern Arizona University, Flagstaff, Arizona, had developed a computer program for curriculum analysis. A workshop was arranged to utilize the computer

service in order to compare objectives being taught by each teacher within the English and mathematics departments and between the high school and junior high schools. The high school and junior high school teachers met to develop objectives for each English and mathematics course taught in the schools. The course goals were entered into the computer and a complete analysis of the objectives obtained. Bliss conducted a workshop for the teachers and helped generate a curriculum for mathematics and English grades seven through twelve.

The inservice created a spirit of cooperation between the schools and helped eliminate duplication of effort and gaps in the design of each course. Teachers agreed upon a basic set of skills for each course and helped develop criteria for placement of students into correct courses for remediation and skill building.

Staff members also volunteered to become involved in the State of Nevada Task Forces which met to develop a plan for minimum competency. As a result, the standards established at Eldorado were similar to the standards adopted by the State of Nevada.

Inservice of the counselor staff was designed to help create an atmosphere conducive to program development. It was agreed that tracking and strict ability grouping were not acceptable and that student mobility was essential. The counselors helped to develop a master schedule which allowed students to be moved to a more appropriate level anytime the need was discovered. Different levels for each course were established for each period in the schedule the subject was taught. Teachers who taught similar courses were also given

preparation periods together wherever possible. This arrangement allowed for upward or downward movement of the student without an extensive schedule change. It also allowed for planning and consultation by teachers.

Students were not allowed to enter a course below their ability as indicated by test scores and student index level. Teachers were encouraged to relocate learners according to need within the program. The plan prevented students from being trapped within a level and provided for upward mobility within the curriculum.

Student involvement. An integral part of program development was obtained from interaction with students. Participants were selected to meet with the school administration and counselors to solicit their feelings about the minimum competency program. The students displayed a keen insight into the problem of underachievement and provided valuable information which was used in the design of the program.

Groups of eight to ten students were selected at random from those considered to be high, average, and low achievers. They met with the administration and counselors and were encouraged to provide both positive and negative information.

The students were delighted to be included in the groups and were totally honest in their appraisal. The interviews with students were carried out every year during the project as part of the planning and revision process and the results were published for the teachers. The students' suggestions were discussed at department chairman

meetings and at teacher inservice sessions.

Students at all levels of achievement approved of setting standards for minimum competency and for holding learners accountable. Involvement of the staff and students was considered essential to program development.

Process Three, Implementation

Diagnostic testing. The implementation process of the Eldorado minimum competency program focused upon the use of criterion-referenced testing to properly diagnose student skill deficiencies in basic subjects (reading, writing and mathematics).

The mathematics department was the first to develop diagnostic tests. Mathematics teachers discovered that an inordinate number of students exhibited inability to perform simple mathematics computations. Many students had not mastered the multiplication tables sufficiently to complete simple multiplication and division problems. Individually, and as a department through inservice sessions, the teachers developed, as previously mentioned, the "Eldorado Basic Minimum Competency Test" (see Appendix C). Content of the test was designed to include the concepts accepted by the school district in mathematics course syllabi and State adopted minimum competency standards. The test level was established at approximately the sixth grade level, which had previously been adopted as minimal for the minimum competency program at Eldorado High School.

The minimum competency test was first administered to students at the conclusion of their junior year. The decision was made to test

juniors because the students were near graduation and had one year to remediate deficiencies.

Limited resources in staff and material dictated that only two sections of remedial mathematics could be offered. Class size would, by necessity, be limited to twenty-five students and only those who scored lowest would be included in the project.

A cut-off score of 70 percent was established as passing on the minimum competency test but over 120 students failed to achieve the 70 percent level. Since only fifty students could be accommodated, those who achieved 40 percent or less were included in remediation.

The staff in the mathematics department was increased during subsequent years to allow for expansion of the program for juniors and to provide for inclusion of freshmen into the program. This was accomplished through normal attrition within the staff and by adding teachers through increased school enrollment.

The feeder junior high schools were cooperative in allowing eighth grade students to be tested. The Eldorado Minimum Competency Test was administered as part of the pre-registration procedures and large numbers of students were identified as being deficient in mathematics skills.

Setting standards and holding students accountable proved to be an essential element in the minimum competency program. A lack of standards and failure to hold students accountable appeared to be a primary cause of low student achievement. This was demonstrated by the reaction of one student to the testing program. The student had

successfully completed mathematics courses in algebra and geometry but failed the minimum competency examination. He was assigned to take the remedial mathematics course during his senior year. The student complained about the placement and pointed out his above average grades in the two high school mathematics courses completed. He was allowed to retake the competency test and passed easily. When asked why he failed his first examination his answer was, "I didn't think you guys were serious!" As educators we have not demonstrated that we are serious about learning and the lack of standards for accountability has allowed students to "slide by" in their courses.

Part of the responsibility for poor student achievement must also rest with the "success oriented" program which was in vogue throughout the United States and which had been adopted by the local school district. The resultant grade inflation encouraged teachers to accept lower quality work to avoid failing students. Even textbook companies reduced the level of difficulty of their texts as teachers demanded materials with lower reading levels requiring less of students.

The Nelson reading test was used to establish reading competency. The sixth grade level of reading was acceptable because readability studies indicated that local newspapers were written at about the sixth grade level and most people obtain their information from reading the newspaper.

As the program for minimum competency developed, the staff made an extensive search for testing instruments to be used to diagnose

deficiencies. It was found that the Stanford Diagnostic tests were acceptable as measures for both mathematics and reading. The tests were used in conjunction with the Eldorado Minimum Competency Test and the Nelson Reading Test to diagnose skill deficiencies and to provide a basis for placement of students into specially designed remedial courses.

Student placement profile. Diagnostic testing was included as one element in the design of a student placement profile. Proper placement into remedial courses in keeping with student need and ability was considered to be essential to the success of remedial classes. The student placement profile, illustrated in Figure 3, aids in the compilation of information about each student. The profile includes test scores, grades earned in previous courses, and teacher recommendations.

Each department involved in remedial instruction was provided with a complete profile on every student. The various departments then met to discuss each student and to recommend appropriate placement in classes. The analysis aided in special program placement such as Title I mathematics and reading. The profile also was used as the basis for placement of all ninth grade students into classes. The personal knowledge of teachers and counselors was allowed to over-ride profile information in order to insure that each student was considered as an individual.

As was metnioned previously, the master schedule was carefully arranged to allow for mobility of students within each

Student Placement Profile

Student Name	S/A (IQ)	Math Stanine	Math Test	Math Grade	Reading Stanine	Reading Test	English Stanine	English Test	English Grade	Placement	Special Program
	105	6/5	35	B	6/6	109	6/6	55	B	3	
	88	4/3	18	A	4/2	69	5/3	37	C	2	R.R.
	104	5/4	34	B	5/6	98	4/2	36	C	2	
	86	3/3	33	A	4/4	80	4/3	35	C	2	Title I Math
	118	7/6	39	A	6/5	114	6/5	56	A	4	
	86	3/3	31	D	3/3	70	3/3	32	D	2	
	125	6/4	30	B	7/6	86	6/6	54	B	4	
	93	5/4	36	B	4/3	100	4/4	40	A	2	
	111	4/1	29	C	6/7	100	4/4	46	C	2	
	95	3/2	36	A	4/4	113	4/4	39	C	2	Title I Math
	100	5/5	23	F	6/6	120	6/6	48	B	3	

Figure 3. Student Placement Profile Information

course. As changes in achievement occurred or as students were identified who had been misplaced, the student was moved up or down within the program.

The increased student mobility constituted an administrative inconvenience as it was sometimes difficult for office personnel to find a specific student who had been moved to achieve more appropriate placement. The administrative problems created were considered to be essential to insure proper placement and maximum student learning.

Specialized course design. The remedial course designed for seniors was called contemporary mathematics. The course utilized drill in basic skill areas to provide a background in addition, subtraction, multiplication, and division of whole numbers and fractions. In some instances a nine-week period was devoted to learning the multiplication tables before work in basic mathematics could begin. Group work was emphasized and the use of special motivational materials was included.

Parents were informed about the test scores achieved by their children and the proposed remedial program was described in the school newsletter. Those selected to be included in the contemporary mathematics program received a personal letter explaining their test scores and the remedial project. A meeting, which included administrators, counselors, teachers, students, and parents was held to discuss each individual student's placement in the minimum competency program.

A special contract which explained the necessity for

remediation and absolved school personnel from responsiblity for skill deficiencies exhibited by students who refused placement into the program, was prepared. During the five-year period covered by this study only two parents signed the contract and refused to allow their child to be placed into the remedial program.

There was no difficulty in filling the contemporary mathematics courses. Most of the students recognized their deficiencies and had a desire to improve their skills. Many parents and students not included in the program expressed a desire to be involved and were disappointed because the school could not provide the service.

The course designed for ninth grade students was called "mathematics laboratory". The course utilized diagnostic testing to identify skill deficiencies and highly individualized materials to remediate the specific problems identified. Students completed unit diagnostic pre-tests and then worked under the direction of a professional teacher, adult aides, and student aides to correct the deficiencies identified. A post-test was utilized to verify skill achievement.

The State of Nevada required only one course in mathematics to qualify for graduation from high school. The mathematics program at Eldorado High School required students with skill deficiencies to complete mathematics laboratory as elective credit before taking the course required for graduation. If the student failed the competency test at the end of the junior year, the contemporary mathematics course was required during the senior year allowing for completion of

three mathematics courses for students with identified skill deficiencies.

The program established for reading and language arts was similar to the mathematics remedial program. The Nelson Reading Test was accepted as the instrument to be used to identify students with skill deficiencies. Those who demonstrated reading skill levels below sixth grade were placed into remedial sections.

The articulation inservice sessions held between the high school and junior high school were especially useful in establishing the minimum competency program in reading and language arts. Once objectives and standards were accepted by each of the school faculties, the task of remediation was more clearly defined. Junior high school teachers agreed to concentrate upon reading and bringing students to the point of being able to write a complete sentence. The high school students would be required to write an acceptable paragraph as their minimum level of performance. Students with severe reading problems were placed in the Title I remedial reading program. The more advanced students needing remedial help were placed in courses which emphasized reading, but also provided for basic instruction in writing and basic English.

Reading specialists and teachers with skills in teaching basic English grammar and composition were hired to provide remedial instruction. A spirit of cooperation within the English department was essential to the success of the program and each teacher accepted the responsibility to teach both remedial and more advanced classes.

As was the case in mathematics, the attitude that only the best teachers could manage the remedial sections created an atmosphere of acceptance for remedial assignments.

The problem of remediation was of difficult proportions. Nearly half of the courses taught by the English department were remedial. Many students, indeed, several class sections, were found to be functionally illiterate in that they could not function at the fifth grade level of proficiency in reading or writing.

An essential feature of the English remedial program was small numbers. Classes were held to 20-25 students and a variety of materials, methodology, and individualization of instruction was utilized. Teachers were encouraged to try anything that might work, realizing that different students learn from different methodologies. It was found that what works well with one student did not succeed with another and a high degree of diversification and individualization was essential; at the same time, each course was highly structured in regard to the objectives to be achieved.

Reading courses received elective credit; in addition, students were required to complete three English courses to qualify for graduation. Students who failed to meet course requirements were immediately recycled at the end of each semester. Students progressed from English I to English II only as they were able to demonstrate minimum skill levels established by the English department.

A Clark County School District Course Syllabus was provided for each English course and established the foundation upon which

instruction was based. Teachers from Eldorado High School were involved in the construction of the English Syllabus which closely parallels the standards adopted by the State Department of Education for minimum competency. Teachers from Eldorado High School were also involved in the task force which formulated the state minimum competency requirements.

Yearly planning. An essential feature of the minimum competency program for both mathematics and English was careful planning of each operation at least a full year in advance. Success of the program depended upon careful articulation with junior high schools, availability of materials required for instruction, staffing of personnel required to implement the programs and continuous revision for improvement.

A dateline for curriculum development and implementation can be found in Figure 4. Each stage in planning and implementing the program was detailed and calendared. The program retained a degree of flexibility as far as time was concerned, but each step was found to be essential to the success of the minimum competency program and the entire school effort.

Process Four, Evaluation

Program evaluation included three primary sources of information: results from testing, information collected from students during interview, and advice from teachers obtained from interview and inservice.

Testing. Program evaluation derived from testing included

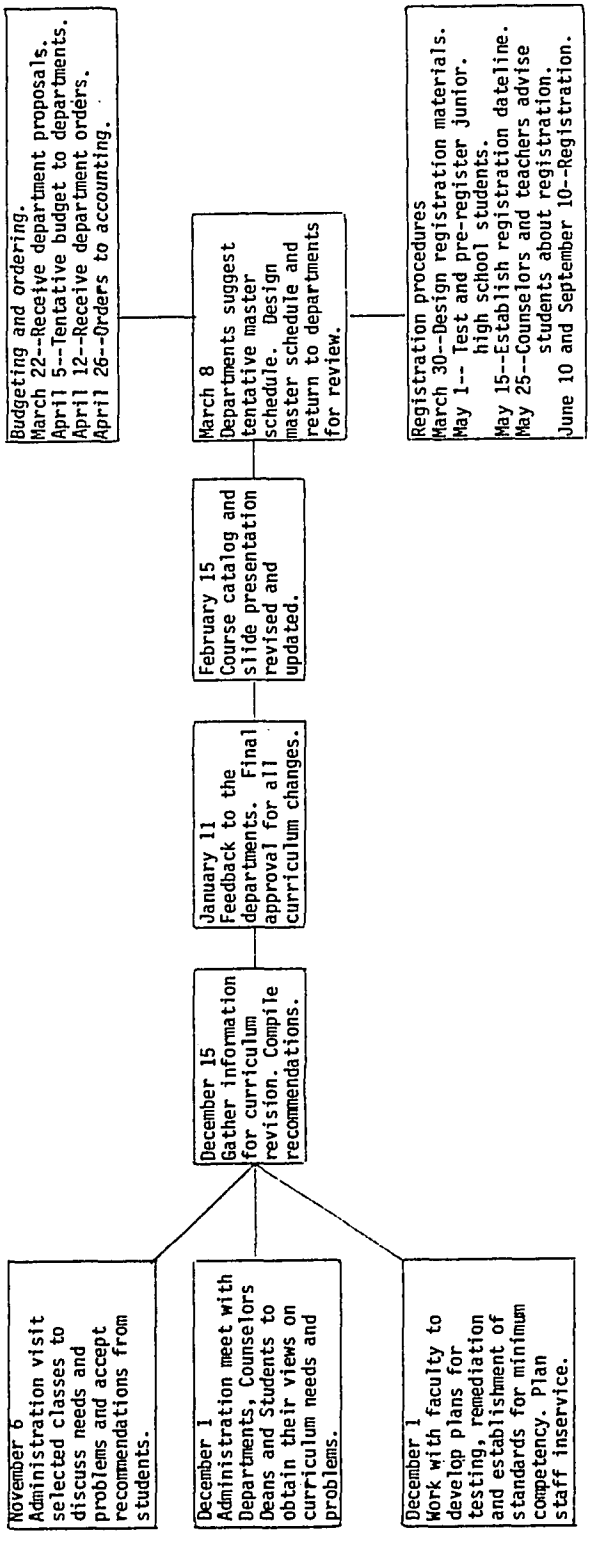

Figure 4. Dateline for Curriculum Development and Implementation.

results obtained from district normative-referenced testing programs and from individual student testing using criterion-referenced tests.

Results from district testing were inconclusive and unreliable, especially in determining individual student skill deficiencies. The tests served as tools which aided in program evaluation and revision. Since only tenth grade students were tested each year, it was difficult to utilize the normative-referenced tests to determine if students in the program had improved. Yearly testing of the same group of students would have provided results which could have been analyzed to determine improvement in student skill levels. The district did not provide yearly testing and the school did not have the resources to allow additional testing.

The school district changed the testing instrument used from the ITED to the California Achievement Test which also made comparison difficult. The ITED requires more verbal skills than the CAT and discriminates against students with reading skill deficiencies.

A high rate of transiency made comparison difficult when using group testing. Turnover at Eldorado High School ran as high as 37 percent during a given year which meant many students tested in the ninth grade were not in the group the next year.

The criterion-referenced tests administered on an individual basis provided a more accurate measure of student basic skills. The tests were administered by the classroom teacher and measured the specific skills being taught. A record of individual student achievement in the subject area was available and pre- and post-test

analysis of the student provided evidence of skill development.

Table 3 lists the students who failed the mathematics competency test and were placed in contemporary mathematics for remediation. All of the students achieved less than 40 percent on the initail testing. A majority of the class members achieved above the 40 percent level following remediation.

Table 4 displays pre- and post-test results obtained from the Eldorado Mathematics Competency Test. The class demonstrated a definite shift toward competency in basic mathematics skills. Only one student failed to improve during the instruction. The student had a high rate of absenteeism and refused to make an effort to learn despite parent conferences and individual help.

Tables 5 and 6 illustrate pre- and post-testing using the Stanford Diagnostic Mathematics Test. The scores are reported in grade equivalents and "H.S." represents grade 9 level of achievement or above. The tests measured the achievement of contemporary mathematics students who failed to demonstrate minimum competency and revealed the level of ability at the beginning and the end of the course. Most students made gains in their basic mathematics skills.

The high rate of turnover within the remedial courses is illustrated in Table 7. Ninth grade mathematics laboratory students were tested using the Stanford Diagnostic Mathematics Test. Most of the students made gains in their mathematics achievement but it should be noted that out of twenty students who started the remedial course, only eleven completed the year. The remainder moved during the year

Table 3. Eldorado Mathematics Minimum Competency Test Contemporary Mathematics Post-test.

Score	Percent	Frequency	Cumulative Frequency
40	100	XXXXXXXXXXX	391
39	98	XXXXXXXXXXXXXXXX	379
38	95	XXXXXXXXXXXXXXXXXX	361
37	93	XXXXXXXXXXXXX	340
36	90	XXXXXXXXXXXXXXXXXX	325
35	88	XXXXXXXXXXXXXXXXXXXXXXXXX	304
34	85	XXXXXXXXXXXXXXXXXXXX	276
33	83	XXXXXXXXXXXXX	252
32	80	XXXXXXXXXXXXXX	237
31	78	XXXXXXXXXXXXXXXXX	220
30	75	XXXXXXXXXXXXXXXX	200
29	73	XXXXXXXXXXXXXXXXXXXX	181
28	70	XXXXX	157
27	68	XXXXXXXXXXXXXXXX	151
26	65	XXXXXXXXX	131
25	63	XXXXXXXXXXXXX	121
24	60	XXXXXXXXXX	105
23	58	XXXXXX	93
22	55	XXXXXXXXX	86
21	53	XXXXXX	76
20	50	XXXXXXXXX	69
19	48	XXXXXX	59
18	45	XXXXX	52
17	43	XXXXXXXX	46
16	40	XXXX	37
15	38	XXX	32
14	35	XXXXXX	29
13	33	XXX	22
12	30	XXX	18
11	28	XX	14
10	25	XX	12
9	23	XX	9
8	20	XXX	7
7	18		
5	13	X	4
4	10	X	3
3	8	X	2
2	5		1
1	3		1
0	0		0

Table 4. Eldorado Mathematics Minimum Competency Test Contemporary Mathematics Pre- and Post-tests.

Scores	Precent	Pre-test Frequency	Post-test Frequency
40	100		
39	98		XX
38	95		XXX
37	93		X
36	90		XXX
35	88	X	XXXX
34	85		XXXXX
33	83		XX
32	80	X	XX
31	78	X	XXXXX
30	75		X
29	73	X	XX
28	70		X
27	68	X	XXX
26	65		X
25	63		X
24	60		XXXX
23	58		X
22	55		X
21	53	XX	XXX
20	50	XXXXXX	X
19	48	XXXXXX	X
18	45	XXXX	X
17	43	XXXXX	
16	40	XXX	XX
15	38	XXX	X
14	35	XXXXXX	
13	33	X	X
12	30	XXX	X
11	28	X	
10	25		
9	23	X	
8	20	X	
7	18		
6	15		
5	13	X	
4	10		
3	8		
2	5		
1	3		X
0	0		

Table 5. Stanford Diagnostic Mathematics Grade Equivalents for Contemporary Mathematics Classes.

Student	Test 1 Number System			Test 2 Computation			Test 3 Application			Total		
	Pre-	Post-	(+ -)	Pre-	Post-	(+ -)	Pre-	Post-	(+ -)	Pre-	Post-	(+ -)
1	7.1	H.S.	+	4.8	8.0	+3.2	3.0	H.S.	+	4.8	H.S.	+
2	5.7	5.4	- .3	4.1	5.8	+1.7	7.1	H.S.	+	5.0	6.6	+1.6
3	4.3	4.3		5.5	6.4	+ .9	5.8	5.8		5.2	5.7	+ .5
4	3.1	5.7	+2.6	5.0	6.9	+1.9	6.2	8.1	+1.9	4.6	7.0	+2.4
5	5.4	4.0	-1.4	7.2	8.0	+ .8	4.6	4.6		6.0	5.9	- .1
6	8.4	7.8	- .6	7.7	H.S.	+	H.S.	H.S.	+	H.S.	H.S.	+
7	5.4	5.4		4.7	5.1	+ .4	5.8	H.S.		5.0	6.0	+1.0
8	5.0	8.1	+3.1	5.5	H.S.		7.6	7.6		5.8	8.5	+2.7
9	H.S.	8.8	-	8.5	H.S.	+	8.1	H.S.	+	8.9	H.S.	+
10	H.S.	H.S.	+	8.9	H.S.	+	H.S.	H.S.	+	H.S.	H.S.	+
11	8.4	H.S.	+	H.S.	H.S.	+	H.S.	H.S.	+	H.S.	H.S.	+
12	7.1	8.1	+1.0	6.7	H.S.	+	H.S.	H.S.	+	8.2	H.S.	+
13	6.1	5.4	- .7	7.2	5.3	-1.9	4.6	3.6	-1.0	6.2	4.8	-1.4
14	H.S.	H.S.	+	H.S.	H.S.	+	H.S.	H.S.	+	H.S.	H.S.	+
15	6.8	H.S.	+	5.5	H.S.	+	H.S.	H.S.	+	7.5	H.S.	+
16	4.0	5.7	+1.7	4.8	5.3	+ .5	7.1	8.6	+1.5	5.0	6.1	+1.1
17	7.1	7.8	+ .7	6.0	8.2	+2.2	H.S.	H.S.	+	8.1	H.S.	+
18	7.6	8.8	+1.2	7.7	H.S.	+	H.S.	H.S.	+	8.5	H.S.	+
19	6.8	7.4	+ .6	5.8	8.0	+2.2	6.2	7.6	+1.4	6.2	7.9	+1.7
20	5.0	6.-	+1.8	5.0	5.8	+ .8	8.1	H.S.	+	5.6	7.1	+1.5
21	H.S.	8.8	-	8.2	H.S.	+	H.S.	H.S.	+	H.S.	H.S.	+
22	8.1	4.3	+	6.2	H.S.	+	H.S.	H.S.	+	7.9	H.S.	+
23	2.8	6.4	+1.5	2.7	3.0	+ .3	4.3	4.0	- .3	3.2	3.6	+ .4
24	7.4	6.4	-1.0	7.2	H.S.	+	5.0	4.3	- .7	6.9	7.1	+ .2
25	6.1	7.8	+1.7	6.7	4.8	-1.9	7.2	7.5	+ .3	6.7	7.5	+ .8
26	H.S.	H.S.	+	H.S.	H.S.	+	H.S.	H.S.	+	H.S.	H.S.	+
27	5.0	5.0		5.8	7.7	+1.9	6.2	7.1	+ .9	5.7	6.9	+1.2
28	4.3	5.4	+1.1	6.4	8.9	+2.5	8.1	8.6	+ .5	6.2	7.8	+1.6

Table 6. Stanford Diagnostic Mathematics Grade Equivalents for Contemporary Mathematics Classes.

Student	Test 1 Number System			Test 2 Computation			Test 3 Application			Total		
	Pre-	Post-	(+ -)	Pre-	Post-	(+ -)	Pre-	Post-	(+ -)	Pre-	Post-	(+ -)
1	6.1	8.1	+2.0	7.7	H.S.	+	H.S.	H.S.	+	8.0	H.S.	+
2	5.7	6.1	+ .4	6.9	7.7	+ .8	4.3	5.8	+1.5	5.9	6.9	+1.0
3	6.1	6.8	+ .7	5.6	8.5	+1.9	H.S.	6.7	-	6.6	7.7	+1.1
4	3.4	5.0	+1.6	5.0	6.4	+1.4	6.7	6.7		4.8	6.1	+1.3
5	6.4	8.1	+1.7	H.S.	H.S.	+	H.S.	8.6	-	8.5	H.S.	+
6	H.S.	H.S.	+	H.S.	H.S.	+	H.S.	H.S.	+	H.S.	H.S.	+
7	8.8	H.S.	+	8.2	8.0	- .2	H.S.	8.1	-	H.S.	8.9	-
8	6.8	6.4	- .4	5.5	6.0	+ .5	8.1	8.6	+ .5	6.5	6.9	+ .4
9	8.4	7.8	- .6	4.7	7.4	+2.7	H.S.	H.S.	+	7.2	H.S.	+
10	4.0	5.0	+1.0	5.1	3.8	-1.3	3.3	4.0	+ .7	4.3	4.1	+ .2
11	4.3	5.7	+1.4	5.0	6.9	+1.9	6.7	5.8	- .9	5.0	6.4	+1.4
12	6.4	5.4	-1.0	4.3	6.2	+1.9	4.3	5.0	+ .7	4.7	5.7	+1.0
13	8.8	H.S.	+	H.S.	H.S.	+	H.S.	H.S.	+	H.S.	H.S.	+
14	4.3	4.3		4.3	5.5	+1.2	5.4	5.8	+ .4	4.5	5.2	+ .7
15	8.4	H.S.	+	6.9	H.S.	+	H.S.	H.S.	+	8.5	H.S.	+
16	7.1	7.8	+ .7	5.8	6.9	+1.1	8.1	H.S.	+	6.9	8.3	+1.4
17	8.8	8.4	- .4	H.S.	H.S.	+	7.1	H.S.	+	H.S.	H.S.	+
18	2.8	3.7	+ .9	2.8	4.8	+2.0	6.7	4.0	-2.7	3.7	4.2	+ .5
19	3.1	3.4	+ .3	4.3	4.1	- .2	4.6	5.4	+ .8	3.7	4.1	+ .4
20	8.1	8.8	+ .7	H.S.	H.S.	+	7.6	8.6	+1.0	8.8	H.S.	+
21	6.1	H.S.	+	5.6	6.0	+ .4	H.S.	H.S.	+	7.0	8.1	+1.1
22	6.1	4.3	-1.8	5.3	H.S.	+	5.4	6.7	+1.3	5.5	7.4	+1.9

Table 7. Stanford Diagnostic Mathematics Test--Mathematics Laboratory Students.

Student	Test 1 Number	System	Test 2 Computation		Test 3 Application		Total		
1	6.4	6.1	5.0	5.1	7.6	H.S.	6.9	6.6	- .3
2	4.7	4.3	6.4	6.0	3.6	6.7	5.2	5.7	+ .5
3	5.0	5.0	4.5	5.0	5.8	3.0	4.8	4.4	- .4
4	4.7	5.0	3.6	3.8	4.3	5.0	4.0	4.4	+ .4
5	6.1	8.4	4.7	5.8	5.8	7.6	5.2	7.2	+2.0
6	8.1	8.8	H.S.	H.S.	H.S.	H.S.	H.S.	H.S.	+
7	4.3	5.0	3.8	4.5	4.6	5.8	4.1	4.8	+ .7
8	5.0	5.1	5.3	7.2	7.1	6.7	5.6	6.7	+1.1
9	6.8	7.8	5.5	H.S.	5.8	H.S.	5.9	H.S.	+3.1
10	6.4	6.4	8.0	8.5	5.4	H.S.	7.1	8.1	+1.0
11	5.4	6.1	3.8	5.6	5.8	8.1	4.6	6.4	+1.8

Note: Nine Students transferred during the school year and were not available to complete the post-test.

and were not available for post-testing. The class displayed in Table 7 is typical of all the mathematics laboratory classes.

Evaluation of students using the criterion-referenced tests demonstrated that high school students could be remediated. Teachers were careful to point out that class size was an essential element in their success. The remedial students required constant individual help and encouragement which was impossible in classes with more than twenty students. Even twenty students were difficult to accommodate without special help in the form of adult and student aides.

Reading teachers also used the Stanford Diagnostic Reading Test to measure student progress in Title I and remedial reading courses. The pre- and post-testing results were similar to the findings obtained for mathematics. Students who remained in the program advanced in their reading skills but a high transciency rate hindered accurate measurement of the results of the program. Small classes were an essential feature of the reading program, but it was demonstrated that high school students can be taught to read if given the proper motivation and individual help.

Evaluation from student interview. During the fall semester of each school year, groups of students representing high, average, and low achieving students were given the opportunity to discuss the school program with the administration. Groups were limited to less than ten students and were given complete freedom to praise or criticize any part of the school operation. Specific questions were

raised during the discussions which encouraged the students to comment about the minimum competency program. Most of the students had favorable comments about the remedial programs and the need for basic skills.

Evaluation from staff interviews. The school district provided substitutes for each teacher involved in the minimum competency program so that special inservice sessions could be conducted. The English and mathematics teachers met to discuss the program and to evaluate progress in helping to remediate students. Both groups were enthusiastic about their teaching and were eager to contribute to program evaluation and curriculum improvement. The planning and evaluation sessions performed an important function in maintaining common goals and standards in each of the courses taught and sharing the successes and failures of the program helped improve methodology and encourage use of different teaching techniques.

The teachers expressed positive feelings about the minimum competency program and willingly accepted responsibility for program design and improvement. The teachers generally accepted the fact that students can learn--and will learn--if motivated and held accountable for specific goals. The established goals were communicated to each student in writing at the beginning of instruction.

Process Five, Dissemination

Publication. The dissemination phase was achieved partially through completion of this study. The project design was effective at Eldorado High School because it met the unique demands of a program

individualized to the particular needs of the student body and staff. The model should only serve as a guide to program development and must be individualized to meet the needs of each student body requiring a minimum competency program.

Visitations. Elements of the Eldorado Minimum Competency Program were discussed during visitations to Eldorado High School by educators and other interested persons.

Presentations. A slide presentation was developed to aid in the dissemination of the program information, which was presented to various school and community organizations.

V. SUMMARY

The purpose of the project was the design of a replicable model for a high school minimum competency program. The model has been described in five processes: analysis, development, implementation, evaluation, and dissemination.

The model was designed to be replicable in any high school, large or small, without any additional special resources or staffing.

The analysis process described the collection of information involved in determining the necessity for implementing a minimum competency program. A review of related literature, a study of available testing information, and questionnaires administered to students, teachers, and parents were the basis for the analysis.

The developmental aspects of the minimum competency program involved establishment of goals and standards, test development,

program design, and suggestions from students, teachers and parents concerning the minimum competency program.

The process of implementing a minimum competency program involved program planning, identification of students with skill deficiencies, development of course goals and objectives, and design of special courses to remediate skill deficiencies. The objectives established for the program were clearly communicated to students in writing.

Evaluation of the project depended upon pre- and post-testing and collecting the opinions of students and teachers through interview and inservice.

Program dissemination was essential if the project was to be replicable in other schools. This was accomplished through writing about the project in this study, through visitations to Eldorado High School by interested parties, and through special presentations to principals, students, parents, and community organizations.

The State of Nevada has mandated that students must be able to demonstrate proficiency in reading, writing, and mathematics to qualify for a high school diploma. If the experience at Eldorado High School helps insure that every student in the State of Nevada qualifies, within the bounds of ability, to receive a high school diploma, the goal established for this project will have been achieved.

Chapter 5

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

I. SUMMARY

Introduction

Accountability, back to the basics, and minimum competency education achieved national prominance in the United States as concerned citizens and legislators criticized lack of achievement among public school pupils.

The minimum proficiency law (NRS 389.015) passed by the 1977 Nevada legislature, mandated that high school graduates, beginning with the class of 1982, must demonstrate minimum competency in reading, writing, and mathematics before being granted a high school diploma.

A project at Eldorado High School, Las Vegas, Nevada has produced a model for high school minimum competency in reading, writing, and mathematics.

The Problem

The purpose of the study was to design a replicable model for a high school minimum competency program. Specifically, the study was designed to investigate:

A. The national trends relative to high school graduation requirements and the minimum competency movement.

B. Action taken by state legislatures and state departments

of education inspired by the minimum competency movement.

C. A comprehensive review of the literature related to minimum competency.

D. A study of the results from various testing efforts relative to minimum competency.

E. A study of the results of questionnaires answered by students, teachers, and parents about minimum competency.

F. The design of a high school minimum competency program in reading, writing, and mathematics.

G. Evaluation of the high school minimum competency program as designed to be replicable in other high schools.

Procedures

The study followed the course of development of a high school minimum competency program from 1973 to 1979 including a needs assessment derived from testing programs and analysis of classroom instruction methodology.

A review of the literature related to the minimum competency movement revealed mounting criticism of public education. The call for accountability, a return to the basics, and refusal of the public to support funding for education were indicators of growing concern about student achievement. Major studies such as the Coleman Report and the National Assessment of Educational Progress have indicated that students lack the skills thought essential to successful adult life in the United States.

Declining test scores were the focal point of criticism.

College entrance test scores have shown a steady decline for nearly twenty years. Intelligence test results have fallen into disrepute and normative-referenced tests are suspected of built-in cultural biases which make them inaccurate and unfair. A newer type of measure, the criterion-referenced test has come into prominance as a more acceptable indicator of student achievement.

At least thirty-one states have passed laws or adopted state department of education regulations which establish minimum competency requirements. Testing for functional literacy has become one of the requirements to receive a high school diploma. One of the first states to administer such tests was Florida where results were labeled a national scandal.

Standards for minimum competency were established by task forces in the State of Nevada. Nevada high school students who graduate in 1982 must demonstrate minimum competency in reading, writing, and mathematics before receiving a diploma.

The Findings

A. A review of the related literature established that citizens in the United States are demanding accountability in education and that a majority of the states have established standards for minimum competency which students must achieve before high school graduation.

B. A study of student achievement test scores for Eldorado High School revealed that student intelligence test scores and student achievement test scores were below the national average.

C. Results from questionnaires administered to students, teachers, and parents indicated a general agreement that minimum competency standards are important and necessary and that the standards should be applied to all students who receive a high school diploma. There was agreement that students should be denied a diploma if they cannot demonstrate minimum competency.

D. The use of criterion-referenced tests, both commercially produced and developed at Eldorado High School, revealed serious skill deficiencies in reading, writing, and mathematics among large numbers of students.

E. Students placed in remedial courses with a low pupil-teacher ratio demonstrated gains in skills as indicated by pre- and post-test results.

F. Experience using criterion-referenced diagnostic tests established that students could be accurately placed into a special program at their skill level. A special student profile aided teachers and administrators to compile information about students to allow for appropriate placement in classes and to remediate within the class.

G. Development of the high school minimum competency model at Eldorado High School can be described in five processes: one, analysis of the problem to be solved by the minimum competency program; two, development of the instruments and methodology for minimum competence; three, implementation of the high school minimum competency program in reading, writing, and mathematics; four, evaluation of the program in terms of student growth and replicability in other high schools; and five, dissemination of the plan within the educational community.

II. CONCLUSIONS

A. Minimum competency is not merely an educational fad because the laws and regulations left in its wake will insure its perpetuation into the future.

B. The public demand for minimum competency in the schools was verified through a questionnaire administered to students, teachers, and parents. The majority of respondents favored minimum competency and only disagreed as to the degree to which the standards should be applied.

C. Criterion-referenced measures are effective in the diagnosis of student skill deficiencies and in prescribing specific remedies to correct the deficiencies.

D. Student underachievement is a national as well as local problem which must be solved if educators are to restore public confidence in the schools.

E. A replicable model for a high school minimum competency program can be a useful tool for educators who are under the requirement to comply with state laws requiring that students demonstrate minimum skills before being graduated from high school. Such a model can save educators the time and effort required to develop an effective program. Without such a model as a guide it may be difficult to achieve implementation of a valid program before the mandated deadline for enforcement of minimum competency standards. Failure to achieve full implementation may result in a student failure rate which will be unacceptable in terms of the waste of human potential.

If students are to take their rightful place as productive citizens in the adult world, they must possess the minimum skills necessary to learn job skills and meet the technological needs of the future.

III. RECOMMENDATIONS

A. Studies should be completed which verify the validity of the minimum competency standards established by the various agencies.

B. Longitudinal studies should be conducted to establish a correlation between the minimum competency skills and success in the adult world, especially as relates to success in the world of work.

C. A thorough study of testing in all of its forms should be conducted in order to eliminate inaccuracy and irrelevance. The development of valid testing instruments and programs is essential to the successful implementation of minimum competency.

D. Research on the effect of class size relating to remedial instruction might be important. Perhaps there would be less underachievement among students if class size permitted the teacher to diagnose and remediate early in the child's education. It is suspected that large numbers of students in class make it impossible for the teacher to be aware of and give proper attention to each child.

E. The relationship between teacher competency and student competency should be studied. Do some teachers have the ability to produce greater student achievement? If so, what are the factors which produce student success?

F. A study should be completed to determine if enforcement of

minimum competency standards upon high school graduates as a condition of graduation produces a higher dropout rate. Does it matter if the dropout rate increases as long as students learn more?

G. The absence of standards in education is a marked feature in schools. Standards vary from state to state, from school to school, and even from teacher to teacher. Research should be conducted to determine the minimum level students should be guaranteed as a right. Can such a minimum be guaranteed?

H. The areas of educational malpractice should be reviewed in light of the new standards for minimum competency. It has been said that doctors bury their mistakes. The mistakes of educators grow up to fill unemployment lines, jails, welfare rolls and the legions of under-employed. Is there a relationship to success in school and success in life? How relevant is the system of schooling in America? Do we perform an invaluable service to our society or merely provide cheap babysitting until children are old enough to make it on their own?

I. The standards of minimum competency should be extended to include all courses taught in the schools, especially those courses required for high school graduation.

J. A study of the method of granting credit within the state is warranted. Is the present Carnegie Unit adequate as a measure of successful completion of a specific course?

K. The State Departments of Education should be strengthened in order to perform more valuable service in curriculum development and

establishment of standards for competence in education. A state curriculum development unit and a state research and development unit could provide invaluable service to the various school districts. These developmental units should be tied to the uniersity system to save costs and tap the vast intellectual resources available in professors and students.

L. A study should be completed to determine if the "back to the basics" movement is valid. Did students learn more in the "good old days"? Do parents know more than their children?

M. As a final recommendation, we must set our educational sights high and maximize the opportunity for all students to achieve their full potential unfettered by any restrictions which might limit their quest for excellence and the good life.

The future of minimum competency education is assured by enactment of state laws and regulations but this is insufficient to insure that students receive the best possible education. Educators may resist establishment of minimum competency programs and only fulfill the requirements at the minimum level. If minimums are accepted as maximums, it is possible that unscrupulous potiticians could suggest denial of further education at state expense as a budget-cutting device once minimum competency is achieved. The result could be an entire generation of minimally competent citizens. The American dream has been achieved through education, each citizen rising to the heights that desire and ambition allowed. Minimum competency can be used to raise the level of achievement and to

improve the opportunity for the ultimate success of every American, or, it can be misused to produce a mediocre generation of minimally educated "equals".

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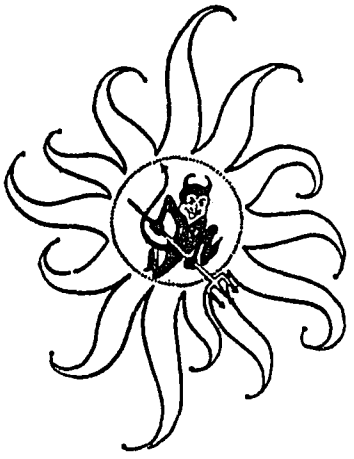
APPENDIXES

Appendix A

QUESTIONNAIRE



Eldorado High School

1139 NO. LINN LANE LAS VEGAS, NEVADA 89110 PHONE: 453-1330

Nils G. Bayles, Principal
K. M. Bowers, Assistant Principal
Allen J. Coles, Assistant Principal
George Ann Rice, Assistant Principal

May 22, 1978

Dear Parents:

Your opinion is vital as we continue in our effort to meet the requirements of the new law (Assembly Bill 400) which requires all students to pass a minimum competency test before a diploma can be issued beginning with the Class of 1981.

The results obtained from this questionnaire will be communicated to educators and lawmakers, and will help us revise our program to meet student needs. It is our goal that every student will be able to pass the competency tests and qualify to receive a diploma upon graduation from high school.

Please write any additional comments on the back of the answer sheet or on a separate sheet of paper and return your answers to school. Your son/daughter should return the answers to the same teachers who distributed the questionnaire to them.

Your cooperation is needed and will be greatly appreciated.

Sincerely,

Nils G. Bayles
Principal
Eldorado High School

NGB:kw

QUESTIONNAIRE

Assembly Bill 400, passed into law by the 1977 Nevada Legislature, requires high school students to pass a competency test on basic skills--reading, writing, and mathematics--to qualify to receive a diploma beinning in 1982. Students who cannot pass the test will receive a Certificate of Attendance. This questionnaire seeks your personal opinion. The results will be communicated to educators and lawmakers. Thank you for your cooperation.

March the answer sheet with only ONE answer for each question. Mark in PENCIL.

1. I am a (a) student (b) teacher (c) parent.

2. (students only) Year in school (a) 8th grade (b) 9th grade (c) 10th grade (d) 11th grade (e) 12th grade.

3. (students only) After high school I plan to (a) work (b) attend college (c) attend trade school (d) get married (e) no plans.

4. (parents and teachers only) Highest high school grade completed (a) 8th grade (b) 9th grade (c) 10th grade (d) 11th grade (e) graduated.

5. (parents and teachers only) Years of schooling completed after high school (a) one (b) two (c) three (d) college graduate (e) advanced degree.

6. My grades in high school mathematics were mostly (a) A (b) B (c) C (d) D (e) F.

7. My grades in high school English were mostly (a) A (b) B (c) C (d) D (e) F.

8. When a student cannot pass a test of basic skills it is mostly the fault of (a) their school (b) their parents (c) the student (d) society (e) all of these.

9. Remedial instruction for students who cannot pass tests of basic skills should be paid for by (a) federal tax money (b) state tax money (c) parents of students who fail (d) teachers of students who fail (e) students who fail.

10. Required remedial instruction should be conducted (a) after regular school hours each day (b) during the summer (c) after regular school hours and during the summer (d) during the regular school day in place of electives (e) during the regular school day in English and mathematics clssses.

Mark the following questions on your answer sheet (a) strongly agree (b) agree (c) disagree (d) strongly disagree.

11. The law which requires students to pass a competency test on basic skills (reading, writing, and mathematics) before graduation is needed.

12. Students would learn more if higher grading standards were enforced in the schools.

13. Students cannot expect to be successful in adult life if they have not mastered basic skills.

14. Every high school graduate should be able to pass a test of basic skills.

15. About one-third of the present high school graduates lack basic skills.

16. Students who complete twelve years of schooling should not be denied a diploma even if they cannot pass a test of basic skills.

17. Students should not be promoted from one grade in school to the next if they cannot pass a test of basic skills.

18. Requiring students to pass a test of basic skills before graduation will increase the drop-out rate.

19. It can be assumed that presently those who receive a high school diploma have mastered basic skills.

20. A skill test should be required for every course which the state requires for graduation (English, mathematics, science, health, physical education, history, and government).

21. Tests of basic skills should be given to students every year that they are in school.

22. Students should not be allowed to enter high school unless they can pass a test of basic skills.

23. Students who cannot pass a test of basic skills should not be allowed to take part in school activities such as athletics, sports, clubs, student council, etc.

24. A paper and pencil test is a good way to determine student's basic skill levels.

25. Teachers should be required to pass a test of basic skills before they are allowed to teach.

26. Adults do not need basic skills in reading, writing, and mathematics.

27. Students should be required to attend remedial instruction until they can pass tests of basic skills.

28. More mathematics courses should be required before graduation (one mathematics course is the present requirement).

29. More language arts--English and reading--courses should be required before graduation (three English courses is the present requirement).

30. I could pass a sixth grade level test of language arts--English and reading--basic skills (most newspapers are written at about sixth grade level).

31. I could pass a sixth grade level test of basic skills in mathematics.

Examples:

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1,003				

195		
X .05	$\frac{1}{2} + \frac{1}{4} =$	10.2 + .04 =

32. Sixth grade level is high enough as a standard for basic skills required for graduation from high school.

FORTRAN-SURVEY RESULTS
STUDENTS

QUESTIONNAIRE ON ASSEMBLY BILL 400 -- SPRING 1978 -- NILS BAYLES STUDY
ALL ITEMS IN SURVEY

ITEM	CHOICE	TALLY	PERCENT	MEAN, IF ANY	N-COUNT FOR THIS ITEM
1 I AM A ...	1 STUDENT	1134	100.00		1134
	2 TEACHER	0	0.00		
	3 PARENT	0	0.00		
2 YEAR IN SCHOOL ... (STUDENTS ONLY)	1 8TH GRADE	3	0.27		1125
	2 9TH GRADE	310	27.56		
	3 10TH GRADE	267	23.73		
	4 11TH GRADE	300	26.67		
	5 12TH GRADE	245	21.78		
3 AFTER HIGH SCHOOL I PLAN TO ... (STUDENTS ONLY)	1 WORK	378	34.55		1094
	2 ATTEND COLLEGE	511	46.71		
	3 ATTEND TRADE SCHOOL	117	10.69		
	4 GET MARRIED	40	3.66		
	5 NO PLANS	48	4.39		
4 HIGHEST SCHOOL GRADE COMPLETED ... (PARENTS AND TEACHERS ONLY)	1 8TH GRADE	7	7.61		92
	2 9TH GRADE	25	27.17		
	3 10TH GRADE	27	29.35		
	4 11TH GRADE	18	19.57		
	5 GRADUATED	15	16.30		
5 YEARS OF SCHOOLING COMPLETED AFTER HIGH SCHOOL ... (PARENTS AND TEACHERS ONLY)	1 ONE	6	10.17		59
	2 TWO	15	25.42		
	3 THREE	18	30.51		
	4 COLLEGE GRADUATE	12	20.34		
	5 ADVANCED DEGREE	8	13.56		
6 MY GRADES IN HIGH SCHOOL WERE MOSTLY ...	1 A	166	14.90		1114
	2 B	360	32.32		
	3 C	467	41.92		
	4 D	106	9.52		
	5 F	15	1.35		
7 MY GRADES IN HIGH SCHOOL ENGLISH WERE MOSTLY ...	1 A	158	14.15		1117
	2 B	389	34.83		
	3 C	436	39.03		
	4 D	107	9.58		
	5 F	27	2.42		
8 WHEN A STUDENT CANNOT PASS A TEST OF BASIC SKILLS IT IS MOSTLY THE FAULT OF ...	1 THEIR SCHOOL	63	5.65		1115
	2 THEIR PARENTS	17	1.52		
	3 THE STUDENT	643	57.67		
	4 SOCIETY	26	2.33		
	5 ALL OF THESE	366	32.83		
9 REMEDIAL INSTRUCTION FOR STUDENTS WHO CANNOT PASS TESTS OF BASIC SKILLS SHOULD BE PAID FOR BY ...	1 FEDERAL TAX MONEY	303	27.42		1105
	2 STATE TAX MONEY	338	30.59		
	3 PARENTS OF STUDENTS WHO FAIL	180	16.29		
	4 TEACHERS OF STUDENTS WHO FAIL	64	5.79		
	5 STUDENTS WHO FAIL	220	19.91		

FORTRAN-SURVEY RESULTS
STUDENTS

QUESTIONNAIRE ON ASSEMBLY BILL 400 -- SPRING 1978 -- NILS PAYLES STUDY
ALL ITEMS IN SURVEY

(CONTINUED)

ITEM	CHOICE	TALLY	PERCENT	MEAN, IF ANY	N-COUNT FOR THIS ITEM
10 REQUIRED REMEDIAL INSTRUCTION SHOULD BE CONDUCTED ...	1 AFTER REGULAR SCHOOL HOURS DAILY	155	13.89		1116
	2 DURING THE SUMMER	214	19.18		
	3 AFTER SCHOOL AND DURING SUMMER	147	13.17		
	4 IN PLACE OF ELECTIVES	455	40.77		
	5 IN ENGLISH AND MATH CLASSES	145	12.99		
11 THE LAW WHICH REQUIRES STUDENTS TO PASS A COMPETENCY TEST ON BASIC SKILLS (READING, WRITING, AND ARITHMETIC) BEFORE GRADUATION IS NEEDED.	1 STRONGLY DISAGREE	67	5.94	3.196	1127
	2 DISAGREE	122	10.83		
	3 AGREE	461	40.91		
	4 STRONGLY AGREE	477	42.32		
12 STUDENTS WOULD LEARN MORE IF HIGHER GRADING STANDARDS WERE ENFORCED IN THE SCHOOLS.	1 STRONGLY DISAGREE	144	12.83	2.547	1122
	2 DISAGREE	398	35.47		
	3 AGREE	402	35.83		
	4 STRONGLY AGREE	178	15.86		
13 STUDENTS CANNOT EXPECT TO BE SUCCESSFUL IN ADULT LIFE IF THEY HAVE NOT MASTERED BASIC SKILLS.	1 STRONGLY DISAGREE	75	6.68	3.161	1122
	2 DISAGREE	144	12.83		
	3 AGREE	428	38.15		
	4 STRONGLY AGREE	475	42.34		
14 EVERY HIGH SCHOOL GRADUATE SHOULD BE ABLE TO PASS A TEST OF BASIC SKILLS.	1 STRONGLY DISAGREE	28	2.48	3.431	1127
	2 DISAGREE	64	5.68		
	3 AGREE	429	38.07		
	4 STRONGLY AGREE	606	53.77		
15 ABOUT ONE-THIRD OF THE PRESENT HIGH SCHOOL GRADUATES LACK BASIC SKILLS.	1 STRONGLY DISAGREE	38	3.39	2.932	1120
	2 DISAGREE	246	21.96		
	3 AGREE	590	52.68		
	4 STRONGLY AGREE	246	21.96		
16 STUDENTS WHO COMPLETE TWELVE YEARS OF SCHOOLING SHOULD NOT BE DENIED A DIPLOMA EVEN IF THEY CANNOT PASS A TEST OF BASIC SKILLS.	1 STRONGLY AGREE	199	17.98	2.577	1107
	2 AGREE	311	28.09		
	3 DISAGREE	356	32.16		
	4 STRONGLY DISAGREE	241	21.77		
17 STUDENTS SHOULD NOT BE PROMOTED FROM ONE GRADE IN SCHOOL TO THE NEXT IF THEY CANNOT PASS A TEST OF BASIC SKILLS.	1 STRONGLY DISAGREE	107	9.59	2.907	1116
	2 DISAGREE	203	18.19		
	3 AGREE	493	44.18		
	4 STRONGLY AGREE	313	28.05		
18 REQUIRING STUDENTS TO PASS A TEST OF BASIC SKILLS BEFORE GRADUATION WILL INCREASE THE DROPOUT RATE.	1 STRONGLY AGREE	284	25.45	2.153	1116
	2 AGREE	463	41.49		
	3 DISAGREE	283	25.36		
	4 STRONGLY DISAGREE	86	7.71		

FORTRAN-SURVEY RESULTS
STUDENTS

QUESTIONNAIRE ON ASSEMBLY BILL 400 -- SPRING 1978 -- NILS RAYLES STUDY
ALL ITEMS IN SURVEY (CONTINUED)

ITEM	CHOICE	TALLY	PERCENT	MEAN, IF ANY	N-COUNT FOR THIS ITEM
19 IT CAN BE ASSUMED THAT PRESENTL THOSE WHO RECEIVE A HIGH SCHOOL DIPLOMA HAVE MASTERED BASIC SKILLS.	1 STRONGLY AGREE	194	17.46	2.310	1111
	2 AGREE	485	43.65		
	3 DISAGREE	326	29.34		
	4 STRONGLY DISAGREE	106	9.54		
20 A SKILL TEST SHOULD BE REQUIRED FOR EVERY COURSE WHICH THE STATE REQUIRES FOR GRADUATION (ENGLISH, MATHEMATICS, SCIENCE, HEALTH, PHYSICAL EDUCATON, HISTORY, AND GOVERNMENT).	1 STRONGLY DISAGREE	123	11.05	2.771	1113
	2 DISAGREE	257	23.09		
	3 AGREE	485	43.58		
	4 STRONGLY AGREE	248	22.28		
21 TESTS OF BASIC SKILLS SHOULD BE GIVEN TO STUDENTS EVERY YEAR THAT THEY ARE IN SCHOOL.	1 STRONGLY DISAGREE	117	10.45	2.808	1120
	2 DISAGREE	253	22.59		
	3 AGREE	478	42.68		
	4 STRONGLY AGREE	272	24.29		
22 STUDENTS SHOULD NOT BE ALLOWED TO ENTER HIGH SCHOOL UNLESS THEY CAN PASS A TEST OF BASIC SKILLS.	1 STRONGLY DISAGREE	199	17.88	2.510	1113
	2 DISAGREE	346	31.09		
	3 AGREE	369	33.15		
	4 STRONGLY AGREE	199	17.88		
23 STUDENTS WHO CANNOT PASS A TEST OF BASIC SKILLS SHOULD NOT BE ALLOWED TO TAKE PART IN SCHOOL ACTIVITIES SUCH AS ATHLETICS, SPORTS, CLUBS, STUDENT COUNCIL, ETC.	1 STRONGLY DISAGREE	318	28.70	2.282	1108
	2 DISAGREE	326	29.42		
	3 AGREE	297	26.81		
	4 STRONGLY AGREE	167	15.07		
24 A PAPER AND PENCIL TEST IS A GOOD WAY TO DETERMINE STUDENTS BASIC SKILL LEVELS.	1 STRONGLY DISAGREE	133	12.03	2.653	1106
	2 DISAGREE	281	25.41		
	3 AGREE	529	47.83		
	4 STRONGLY AGREE	163	14.74		
25 TEACHERS SHOULD BE REQUIRED TO PASS A TEST OF BASIC SKILLS BEFORE THEY ARE ALLOWED TO TEACH.	1 STRONGLY DISAGREE	46	4.10	3.478	1122
	2 DISAGREE	79	7.04		
	3 AGREE	290	25.85		
	4 STRONGLY AGREE	707	63.01		
26 ADULTS DO NOT NEED BASIC SKILLS IN READING, WRITING, AND MATHEMATICS.	1 STRONGLY AGREE	76	7.05	3.240	1078
	2 AGREE	143	13.27		
	3 DISAGREE	305	28.29		
	4 STRONGLY DISAGREE	554	51.39		
27 STUDENTS SHOULD BE REQUIRED TO ATTEND REMEDIAL INSTRUCTION UNTIL THEY CAN PASS TESTS OF BASIC SKILLS.	1 STRONGLY DISAGREE	61	5.49	2.938	1111
	2 DISAGREE	222	19.98		
	3 AGREE	553	49.77		
	4 STRONGLY AGREE	275	24.75		

FORTRAN-SURVEY RESULTS
STUDENTS

QUESTIONNAIRE ON ASSEMBLY BILL 400 -- SPRING 1978 -- NILS BAYLES STUDY
ALL ITEMS IN SURVEY

(CONTINUED)

ITEM	CHOICE	TALLY	PERCENT	MEAN, IF ANY	N-COUNT FOR THIS ITEM
28 MORE MATHEMATICS COURSES SHOULD BE REQUIRED BEFORE GRADUATION (ONE MATHEMATICS COURSE IS THE PRESENT REQUIREMENT).	1 STRONGLY DISAGREE	141	12.71	2.657	1109
	2 DISAGREE	320	28.85		
	3 AGREE	426	38.41		
	4 STRONGLY AGREE	222	20.02		
29 MORE LANGUAGE ARTS -- ENGLISH AND READING -- COURSES SHOULD BE REQUIRED BEFORE GRADUATION (THREE ENGLISH COURSES IS THE PRESENT REQUIREMENT).	1 STRONGLY DISAGREE	223	20.22	2.303	1103
	2 DISAGREE	456	41.34		
	3 AGREE	291	26.38		
	4 STRONGLY AGREE	133	12.06		
30 I COULD PASS A SIXTH GRADE LEVEL TEST OF LANGUAGE ARTS -- ENGLISH AND READING -- BASIC SKILLS (MOST NEWSPAPERS ARE WRITTEN AT ABOUT SIXTH GRADE LEVEL).	1 STRONGLY DISAGREE	16	1.44	3.491	1111
	2 DISAGREE	56	5.04		
	3 AGREE	405	36.45		
	4 STRONGLY AGREE	634	57.07		
31 I COULD PASS A SIXTH GRADE LEVEL TEST OF BASIC SKILLS IN MATHEMATICS.	1 STRONGLY DISAGREE	17	1.53	3.621	1109
	2 DISAGREE	40	3.61		
	3 AGREE	289	26.06		
	4 STRONGLY AGREE	763	68.80		
32 SIXTH GRADE LEVEL IS HIGH ENOUGH AS A STANDARD FOR BASIC SKILLS REQUIRED FOR GRADUATION FROM HIGH SCHOOL.	1 STRONGLY DISAGREE	297	27.84	2.276	1067
	2 DISAGREE	335	31.40		
	3 AGREE	278	26.05		
	4 STRONGLY AGREE	157	14.71		
33 SUMMARY OF ALL ITEMS ABOVE FOR WHICH MEANS ARE GIVEN.	1	2903	11.88	2.831	24438
	2	5550	22.71		
	3	8763	35.86		
	4	7222	29.55		

FORTRAN-SURVEY PESULTS
TEACHERS

QUESTIONNAIRE ON ASSEMBLY BILL 400 -- SPRING 1978 -- NILS BAYLES STUDY
ALL ITEMS IN SURVEY

ITEM	CHOICE	TALLY	PERCENT	MEAN, IF ANY	N-COUNT FOR THIS ITEM
1 I AM A ...	1 STUDENT	0	0.00		81
	2 TEACHER	81	100.00		
	3 PARENT	0	0.00		
2 YEAR IN SCHOOL ... (STUDENTS ONLY)	1 8TH GRADE	0	0.00		3
	2 9TH GRADE	2	66.67		
	3 10TH GRADE	0	0.00		
	4 11TH GRADE	1	33.33		
	5 12TH GRADE	0	0.00		
3 AFTER HIGH SCHOOL I PLAN TO ... (STUDENTS ONLY)	1 WORK	1	25.00		4
	2 ATTEND COLLEGE	0	0.00		
	3 ATTEND TRADE SCHOOL	2	50.00		
	4 GET MARRIED	0	0.00		
	5 NO PLANS	1	25.00		
4 HIGHEST SCHOOL GRADE COMPLETED ... (PARENTS AND TEACHERS ONLY)	1 8TH GRADE	0	0.00		78
	2 9TH GRADE	0	0.00		
	3 10TH GRADE	0	0.00		
	4 11TH GRADE	2	2.56		
	5 GRADUATED	76	97.44		
5 YEARS OF SCHOOLING COMPLETED AFTER HIGH SCHOOL ... (PARENTS AND TEACHERS ONLY)	1 ONE	1	1.32		76
	2 TWO	0	0.00		
	3 THREE	0	0.00		
	4 COLLEGE GRADUATE	22	28.95		
	5 ADVANCED DEGREE	53	69.74		
6 MY GRADES IN HIGH SCHOOL WERE MOSTLY ...	1 A	25	30.86		81
	2 B	39	48.15		
	3 C	15	18.52		
	4 D	1	1.23		
	5 F	1	1.23		
7 MY GRADES IN HIGH SCHOOL ENGLISH WERE MOSTLY ...	1 A	30	37.04		81
	2 B	31	38.27		
	3 C	19	23.46		
	4 D	1	1.23		
	5 F	0	0.00		
8 WHEN A STUDENT CANNOT PASS A TEST OF BASIC SKILLS IT IS MOSTLY THE FAULT OF ...	1 THEIR SCHOOL	2	2.47		81
	2 THEIR PARENTS	6	7.41		
	3 THE STUDENT	26	32.10		
	4 SOCIETY	1	1.23		
	5 ALL OF THESE	46	56.79		
9 REMEDIAL INSTRUCTION FOR STUDENTS WHO CANNOT PASS TESTS OF BASIC SKILLS SHOULD BE PAID FOR BY ...	1 FEDERAL TAX MONEY	15	18.99		79
	2 STATE TAX MONEY	21	26.58		
	3 PARENTS OF STUDENTS WHO FAIL	34	43.04		
	4 TEACHERS OF STUDENTS WHO FAIL	1	1.27		
	5 STUDENTS WHO FAIL	8	10.13		

FORTRAN-SURVEY RESULTS
TEACHERS

QUESTIONNAIRE ON ASSEMBLY BILL 400 -- SPRING 1978 -- NILS PAYLES STUDY
ALL ITEMS IN SURVEY

(CONTINUED)

ITEM	CHOICE	TALLY	PERCENT	MEAN, IF ANY	N-COUNT FOR THIS ITEM
10 REQUIRED REMEDIAL INSTRUCTION SHOULD BE CONDUCTED ...	1 AFTER REGULAR SCHOOL HOURS DAILY	5	6.17		81
	2 DURING THE SUMMER	6	7.41		
	3 AFTER SCHOOL AND DURING SUMMER	18	22.22		
	4 IN PLACE OF ELECTIVES	40	49.38		
	5 IN ENGLISH AND MATH CLASSES	12	14.81		
11 THE LAW WHICH REQUIRES STUDENTS TO PASS A COMPETENCY TEST ON BASIC SKILLS (READING, WRITING, AND ARITHMETIC) BEFORE GRADUATION IS NEEDED.	1 STRONGLY DISAGREE	0	0.00	3.753	81
	2 DISAGREE	2	2.47		
	3 AGREE	16	19.75		
	4 STRONGLY AGREE	63	77.78		
12 STUDENTS WOULD LEARN MORE IF HIGHER GRADING STANDARDS WERE ENFORCED IN THE SCHOOLS.	1 STRONGLY DISAGREE	0	0.00	3.321	81
	2 DISAGREE	12	14.81		
	3 AGREE	31	38.27		
	4 STRONGLY AGREE	38	46.91		
13 STUDENTS CANNOT EXPECT TO BE SUCCESSFUL IN ADULT LIFE IF THEY HAVE NOT MASTERED BASIC SKILLS.	1 STRONGLY DISAGREE	0	0.00	3.375	80
	2 DISAGREE	11	13.75		
	3 AGREE	28	35.00		
	4 STRONGLY AGREE	41	51.25		
14 EVERY HIGH SCHOOL GRADUATE SHOULD BE ABLE TO PASS A TEST OF BASIC SKILLS.	1 STRONGLY DISAGREE	0	0.00	3.728	81
	2 DISAGREE	2	2.47		
	3 AGREE	18	22.22		
	4 STRONGLY AGREE	61	75.31		
15 ABOUT ONE-THIRD OF THE PRESENT HIGH SCHOOL GRADUATES LACK BASIC SKILLS.	1 STRONGLY DISAGREE	2	2.47	3.247	81
	2 DISAGREE	10	12.35		
	3 AGREE	35	43.21		
	4 STRONGLY AGREE	34	41.98		
16 STUDENTS WHO COMPLETE TWELVE YEARS OF SCHOOLING SHOULD NOT BE DENIED A DIPLOMA EVEN IF THEY CANNOT PASS A TEST OF BASIC SKILLS.	1 STRONGLY AGREE	5	6.94	3.111	72
	2 AGREE	14	19.44		
	3 DISAGREE	21	29.17		
	4 STRONGLY DISAGREE	32	44.44		
17 STUDENTS SHOULD NOT BE PROMOTED FROM ONE GRADE IN SCHOOL TO THE NEXT IF THEY CANNOT PASS A TEST OF BASIC SKILLS.	1 STRONGLY DISAGREE	4	5.00	3.450	80
	2 DISAGREE	6	7.50		
	3 AGREE	20	25.00		
	4 STRONGLY AGREE	50	62.50		
18 REQUIRING STUDENTS TO PASS A TEST OF BASIC SKILLS BEFORE GRADUATION WILL INCREASE THE DROPOUT RATE.	1 STRONGLY AGREE	11	14.10	2.436	78
	2 AGREE	32	41.03		
	3 DISAGREE	25	32.05		
	4 STRONGLY DISAGREE	10	12.82		

FORTRAN-SURVEY RESULTS
TEACHERS

QUESTIONNAIRE ON ASSEMBLY BILL 400 -- SPRING 1978 -- NILS BAYLES STUDY
ALL ITEMS IN SURVEY

(CONTINUED)

ITEM	CHOICE	TALLY	PERCENT	MEAN, IF ANY	N-COUNT FOR THIS ITEM
19 IT CAN BE ASSUMED THAT PRESENTL THOSE WHO RECEIVE A HIGH SCHOOL DIPLOMA HAVE MASTERED BASIC SKILLS.	1 STRONGLY AGREE	3	4.05	3.027	74
	2 AGREE	18	24.32		
	3 DISAGREE	27	36.49		
	4 STRONGLY DISAGREE	26	35.14		
20 A SKILL TEST SHOULD BE REQUIRED FOR EVERY COURSE WHICH THE STATE REQUIRES FOR GRADUATION (ENGLISH, MATHEMATICS, SCIENCE, HEALTH, PHYSICAL EDUCATON, HISTORY, AND GOVERNMENT).	1 STRONGLY DISAGREE	3	3.85	3.115	78
	2 DISAGREE	13	16.67		
	3 AGREE	34	43.59		
	4 STRONGLY AGREE	28	35.90		
21 TESTS OF BASIC SKILLS SHOULD BE GIVEN TO STUDENTS EVERY YEAR THAT THEY ARE IN SCHOOL.	1 STRONGLY DISAGREE	2	2.50	3.188	80
	2 DISAGREE	13	16.25		
	3 AGREE	33	41.25		
	4 STRONGLY AGREE	32	40.00		
22 STUDENTS SHOULD NOT BE ALLOWED TO ENTER HIGH SCHOOL UNLESS THEY CAN PASS A TEST OF BASIC SKILLS.	1 STRONGLY DISAGREE	4	5.06	3.165	79
	2 DISAGREE	12	15.19		
	3 AGREE	30	37.97		
	4 STRONGLY AGREE	33	41.77		
23 STUDENTS WHO CANNOT PASS A TEST OF BASIC SKILLS SHOULD NOT BE ALLOWED TO TAKE PART IN SCHOOL ACTIVITIES SUCH AS ATHLETICS, SPORTS, CLUBS, STUDENT COUNCIL, ETC.	1 STRONGLY DISAGREE	21	26.92	2.346	78
	2 DISAGREE	25	32.05		
	3 AGREE	16	20.51		
	4 STRONGLY AGREE	16	20.51		
24 A PAPER AND PENCIL TEST IS A GOOD WAY TO DETERMINE STUDENTS BASIC SKILL LEVELS.	1 STRONGLY DISAGREE	7	9.09	2.662	77
	2 DISAGREE	18	23.38		
	3 AGREE	46	59.74		
	4 STRONGLY AGREE	6	7.79		
25 TEACHERS SHOULD BE REQUIRED TO PASS A TEST OF BASIC SKILLS BEFORE TEHEY ARE ALLOWED TO TEACH.	1 STRONGLY DISAGREE	6	7.50	3.300	80
	2 DISAGREE	5	6.25		
	3 AGREE	28	35.00		
	4 STRONGLY AGREE	41	51.25		
26 ADULTS DO NOT NEED BASIC SKILLS IN READING, WRITING, AND MATHEMATICS.	1 STRONGLY AGREE	2	2.90	3.739	69
	2 AGREE	2	2.90		
	3 DISAGREE	8	11.59		
	4 STRONGLY DISAGREE	57	82.61		
27 STUDENTS SHOULD BE REQUIRED TO ATTEND REMEDIAL INSTRUCTION UNTIL THEY CAN PASS TESTS OF BASIC SKILLS.	1 STRONGLY DISAGREE	1	1.23	3.395	81
	2 DISAGREE	7	8.64		
	3 AGREE	32	39.51		
	4 STRONGLY AGREE	41	50.62		

FORTRAN-SURVEY RESULTS
TEACHERS

QUESTIONNAIRE ON ASSEMBLY BILL 400 -- SPRING 1978 -- NILS BAYLES STUDY
ALL ITEMS IN SURVEY

(CONTINUED)

ITEM	CHOICE	TALLY	PERCENT	MEAN, IF ANY	N-COUNT FOR THIS ITEM
28 MORE MATHEMATICS COURSES SHOULD BE REQUIRED BEFORE GRADUATION (ONE MATHEMATICS COURSE IS THE PRESENT REQUIREMENT).	1 STRONGLY DISAGREE	2	2.50	3.212	80
	2 DISAGREE	12	15.00		
	3 AGREE	33	41.25		
	4 STRONGLY AGREE	33	41.25		
29 MORE LANGUAGE ARTS -- ENGLISH AND READING -- COURSES SHOULD BE REQUIRED BEFORE GRADUATION (THREE ENGLISH COURSES IS THE PRESENT REQUIREMENT).	1 STRONGLY DISAGREE	4	5.06	2.962	79
	2 DISAGREE	25	31.65		
	3 AGREE	20	25.32		
	4 STRONGLY AGREE	30	37.97		
30 I COULD PASS A SIXTH GRADE LEVEL TEST OF LANGUAGE ARTS -- ENGLISH AND READING -- BASIC SKILLS (MOST NEWSPAPERS ARE WRITTEN AT ABOUT SIXTH GRADE LEVEL).	1 STRONGLY DISAGREE	1	1.25	3.813	80
	2 DISAGREE	1	1.25		
	3 AGREE	10	12.50		
	4 STRONGLY AGREE	68	85.00		
31 I COULD PASS A SIXTH GRADE LEVEL TEST OF BASIC SKILLS IN MATHEMATICS.	1 STRONGLY DISAGREE	1	1.25	3.862	80
	2 DISAGREE	1	1.25		
	3 AGREE	6	7.50		
	4 STRONGLY AGREE	72	90.00		
32 SIXTH GRADE LEVEL IS HIGH ENOUGH AS A STANDARD FOR BASIC SKILLS REQUIRED FOR GRADUATION FROM HIGH SCHOOL.	1 STRONGLY DISAGREE	29	42.03	1.884	69
	2 DISAGREE	24	34.78		
	3 AGREE	11	15.94		
	4 STRONGLY AGREE	5	7.25		
33 SUMMARY OF ALL ITEMS ABOVE FOR WHICH MEANS ARE GIVEN.	1	106	6.29	3.196	1718
	2	265	15.42		
	3	528	30.73		
	4	817	47.56		

FORTRAN-SURVEY RESULTS
PARENTS

QUESTIONNAIRE ON ASSEMBLY BILL 400 -- SPPING 1978 -- NILS BAYLES STUDY
ALL ITEMS IN SURVEY

ITEM	CHOICE	TALLY	PERCENT	MEAN, IF ANY	N-COUNT FOR THIS ITEM
1 I AM A ...	1 STUDENT	0	0.00		298
	2 TEACHER	0	0.00		
	3 PARENT	298	100.00		
2 YEAR IN SCHOOL ... (STUDENTS ONLY)	1 8TH GRADE	0	0.00		26
	2 9TH GRADE	8	30.77		
	3 10TH GRADE	4	15.38		
	4 11TH GRADE	4	15.38		
	5 12TH GRADE	10	38.46		
3 AFTER HIGH SCHOOL I PLAN TO ... (STUDENTS ONLY)	1 WORK	10	40.00		25
	2 ATTEND COLLEGE	8	32.00		
	3 ATTEND TRADE SCHOOL	3	12.00		
	4 GET MARRIED	1	4.00		
	5 NO PLANS	3	12.00		
4 HIGHEST SCHOOL GRADE COMPLETED ... (PARENTS AND TEACHERS ONLY)	1 8TH GRADE	5	1.70		294
	2 9TH GRADE	10	3.40		
	3 10TH GRADE	19	6.46		
	4 11TH GRADE	34	11.56		
	5 GRADUATED	226	76.87		
5 YEARS OF SCHOOLING COMPLETED AFTER HIGH SCHOOL ... (PARENTS AND TEACHERS ONLY)	1 ONE	54	35.06		154
	2 TWO	39	25.32		
	3 THREE	16	10.39		
	4 COLLEGE GRADUATE	32	20.78		
	5 ADVANCED DEGREE	13	8.44		
6 MY GRADES IN HIGH SCHOOL WERE MOSTLY ...	1 A	61	20.68		295
	2 B	139	47.12		
	3 C	84	28.47		
	4 D	10	3.39		
	5 F	1	0.34		
7 MY GRADES IN HIGH SCHOOL ENGLISH WERE MOSTLY ...	1 A	63	21.80		289
	2 B	133	46.02		
	3 C	83	28.72		
	4 D	9	3.11		
	5 F	1	0.35		
8 WHEN A STUDENT CANNOT PASS A TEST OF BASIC SKILLS IT IS MOSTLY THE FAULT OF ...	1 THEIR SCHOOL	52	17.57		296
	2 THEIR PARENTS	12	4.05		
	3 THE STUDENT	73	24.66		
	4 SOCIETY	4	1.35		
	5 ALL OF THESE	155	52.36		
9 REMEDIAL INSTRUCTION FOR STUDENTS WHO CANNOT PASS TESTS OF BASIC SKILLS SHOULD BE PAID FOR BY ...	1 FEDERAL TAX MONEY	112	39.30		285
	2 STATE TAX MONEY	79	27.72		
	3 PARENTS OF STUDENTS WHO FAIL	54	18.95		
	4 TEACHERS OF STUDENTS WHO FAIL	8	2.81		
	5 STUDENTS WHO FAIL	32	11.23		

FORTRAN-SURVEY RESULTS
PARENTS

QUESTIONNAIRE ON ASSEMBLY BILL 400 -- SPRING 1978 -- NILS RAYLES STUDY
ALL ITEMS IN SURVEY

(CONTINUED)

ITEM	CHOICE	TALLY	PERCENT	MEAN, IF ANY	N-COUNT FOR THIS ITEM
10 REQUIRED REMEDIAL INSTRUCTION SHOULD BE CONDUCTED ...	1 AFTER REGULAR SCHOOL HOURS DAILY	25	8.59		291
	2 DURING THE SUMMER	36	12.37		
	3 AFTER SCHOOL AND DURING SUMMER	47	16.15		
	4 IN PLACE OF ELECTIVES	150	51.55		
	5 IN ENGLISH AND MATH CLASSES	33	11.34		
11 THE LAW WHICH REQUIRES STUDENTS TO PASS A COMPETENCY TEST ON BASIC SKILLS (READING, WRITING, AND ARITHMETIC) BEFORE GRADUATION IS NEEDED.	1 STRONGLY DISAGREE	7	2.35	3.621	298
	2 DISAGREE	5	1.68		
	3 AGREE	82	27.52		
	4 STRONGLY AGREE	204	68.46		
12 STUDENTS WOULD LEARN MORE IF HIGHER GRADING STANDARDS WERE ENFORCED IN THE SCHOOLS.	1 STRONGLY DISAGREE	15	5.05	2.936	297
	2 DISAGREE	74	24.92		
	3 AGREE	123	41.41		
	4 STRONGLY AGREE	85	28.62		
13 STUDENTS CANNOT EXPECT TO BE SUCCESSFUL IN ADULT LIFE IF THEY HAVE NOT MASTERED BASIC SKILLS.	1 STRONGLY DISAGREE	5	1.69	3.447	295
	2 DISAGREE	30	10.17		
	3 AGREE	88	29.83		
	4 STRONGLY AGREE	172	58.31		
14 EVERY HIGH SCHOOL GRADUATE SHOULD BE ABLE TO PASS A TEST OF BASIC SKILLS.	1 STRONGLY DISAGREE	2	0.66	3.611	301
	2 DISAGREE	11	3.65		
	3 AGREE	89	29.57		
	4 STRONGLY AGREE	199	66.11		
15 ABOUT ONE-THIRD OF THE PRESENT HIGH SCHOOL GRADUATES LACK BASIC SKILLS.	1 STRONGLY DISAGREE	3	1.02	3.156	294
	2 DISAGREE	40	13.61		
	3 AGREE	159	54.08		
	4 STRONGLY AGREE	92	31.29		
16 STUDENTS WHO COMPLETE TWELVE YEARS OF SCHOOLING SHOULD NOT BE DENIED A DIPLOMA EVEN IF THEY CANNOT PASS A TEST OF BASIC SKILLS.	1 STRONGLY AGREE	27	9.34	2.834	289
	2 AGREE	74	25.61		
	3 DISAGREE	108	37.37		
	4 STRONGLY DISAGREE	80	27.68		
17 STUDENTS SHOULD NOT BE PROMOTED FROM ONE GRADE IN SCHOOL TO THE NEXT IF THEY CANNOT PASS A TEST OF BASIC SKILLS.	1 STRONGLY DISAGREE	11	3.67	3.250	300
	2 DISAGREE	32	10.67		
	3 AGREE	128	42.67		
	4 STRONGLY AGREE	129	43.00		
18 REQUIRING STUDENTS TO PASS A TEST OF BASIC SKILLS BEFORE GRADUATION WILL INCREASE THE DROPOUT RATE.	1 STRONGLY AGREE	48	16.44	2.425	292
	2 AGREE	103	35.27		
	3 DISAGREE	110	37.67		
	4 STRONGLY DISAGREE	31	10.62		

FORTRAN-SURVEY RESULTS
PARENTS

QUESTIONNAIRE ON ASSEMBLY BILL 400 -- SPRING 1978 -- NILS BAYLES STUDY
ALL ITEMS IN SURVEY

(CONTINUED)

ITEM	CHOICE	TALLY	PERCENT	MEAN, IF ANY	N-COUNT FOR THIS ITEM
19 IT CAN BE ASSUMED THAT PRESENTL THOSE WHO RECEIVE A HIGH SCHOOL DIPLOMA HAVE MASTERED BASIC SKILLS.	1 STRONGLY AGREE	30	10.20	2.677	294
	2 AGREE	96	32.65		
	3 DISAGREE	107	36.39		
	4 STRONGLY DISAGREE	61	20.75		
20 A SKILL TEST SHOULD BE REQUIRED FOR EVERY COURSE WHICH THE STATE REQUIRES FOR GRADUATION (ENGLISH, MATHEMATICS, SCIENCE, HEALTH, PHYSICAL EDUCATON, HISTORY, AND GOVERNMENT).	1 STRONGLY DISAGREE	20	6.71	2.879	298
	2 DISAGREE	65	21.81		
	3 AGREE	144	48.32		
	4 STRONGLY AGREE	69	23.15		
21 TESTS OF BASIC SKILLS SHOULD BE GIVEN TO STUDENTS EVERY YEAR THAT THEY ARE IN SCHOOL.	1 STRONGLY DISAGREE	4	1.34	3.284	299
	2 DISAGREE	32	10.70		
	3 AGREE	138	46.15		
	4 STRONGLY AGREE	125	41.81		
22 STUDENTS SHOULD NOT BE ALLOWED TO ENTER HIGH SCHOOL UNLESS THEY CAN PASS A TEST OF BASIC SKILLS.	1 STRONGLY DISAGREE	19	6.40	3.024	297
	2 DISAGREE	58	19.53		
	3 AGREE	117	39.39		
	4 STRONGLY AGREE	103	34.68		
23 STUDENTS WHO CANNOT PASS A TEST OF BASIC SKILLS SHOULD NOT BE ALLOWED TO TAKE PART IN SCHOOL ACTIVITIES SUCH AS ATHLETICS, SPORTS, CLUBS, STUDENT COUNCIL, ETC.	1 STRONGLY DISAGREE	63	21.36	2.454	295
	2 DISAGREE	96	32.54		
	3 AGREE	75	25.42		
	4 STRONGLY AGREE	61	20.68		
24 A PAPER AND PENCIL TEST IS A GOOD WAY TO DETERMINE STUDENTS BASIC SKILL LEVELS.	1 STRONGLY DISAGREE	23	7.93	2.724	290
	2 DISAGREE	73	25.17		
	3 AGREE	155	53.45		
	4 STRONGLY AGREE	39	13.45		
25 TEACHERS SHOULD BE REQUIRED TO PASS A TEST OF BASIC SKILLS BEFORE THEY ARE ALLOWED TO TEACH.	1 STRONGLY DISAGREE	6	2.00	3.657	300
	2 DISAGREE	7	2.33		
	3 AGREE	71	23.67		
	4 STRONGLY AGREE	216	72.00		
26 ADULTS DO NOT NEED BASIC SKILLS IN READING, WRITING, AND MATHEMATICS.	1 STRONGLY AGREE	10	3.53	3.435	283
	2 AGREE	23	8.13		
	3 DISAGREE	84	29.68		
	4 STRONGLY DISAGREE	166	58.66		
27 STUDENTS SHOULD BE REQUIRED TO ATTEND REMEDIAL INSTRUCTION UNTIL THEY CAN PASS TESTS OF BASIC SKILLS.	1 STRONGLY DISAGREE	8	2.72	3.282	294
	2 DISAGREE	25	8.50		
	3 AGREE	137	46.60		
	4 STRONGLY AGREE	124	42.18		

FORTRAN-SURVEY RESULTS
PARENTS

QUESTIONNAIRE ON ASSEMBLY BILL 400 -- SPRING 1978 -- NILS BAYLES STUDY
ALL ITEMS IN SURVEY

(CONTINUED)

ITEM	CHOICE	TALLY	PERCENT	MEAN, IF ANY	N-COUNT FOR THIS ITEM
28 MORE MATHEMATICS COURSES SHOULD BE REQUIRED BEFORE GRADUATION (ONE MATHEMATICS COURSE IS THE PRESENT REQUIREMENT).	1 STRONGLY DISAGREE	20	6.83	2.829	293
	2 DISAGREE	78	26.62		
	3 AGREE	127	43.34		
	4 STRONGLY AGREE	68	23.21		
29 MORE LANGUAGE ARTS -- ENGLISH AND READING -- COURSES SHOULD BE REQUIRED BEFORE GRADUATION (THREE ENGLISH COURSES IS THE PRESENT REQUIREMENT).	1 STRONGLY DISAGREE	26	8.97	2.559	290
	2 DISAGREE	129	44.48		
	3 AGREE	82	28.28		
	4 STRONGLY AGREE	53	18.28		
30 I COULD PASS A SIXTH GRADE LEVEL TEST OF LANGUAGE ARTS -- ENGLISH AND READING -- BASIC SKILLS (MOST NEWSPAPERS ARE WRITTEN AT ABOUT SIXTH GRADE LEVEL).	1 STRONGLY DISAGREE	5	1.69	3.454	295
	2 DISAGREE	9	3.05		
	3 AGREE	128	43.39		
	4 STRONGLY AGREE	153	51.86		
31 I COULD PASS A SIXTH GRADE LEVEL TEST OF BASIC SKILLS IN MATHEMATICS.	1 STRONGLY DISAGREE	2	0.68	3.551	292
	2 DISAGREE	9	3.08		
	3 AGREE	107	36.64		
	4 STRONGLY AGREE	174	59.59		
32 SIXTH GRADE LEVEL IS HIGH ENOUGH AS A STANDARD FOR BASIC SKILLS REQUIRED FOR GRADUATION FROM HIGH SCHOOL.	1 STRONGLY DISAGREE	113	39.37	1.934	287
	2 DISAGREE	101	35.19		
	3 AGREE	52	18.12		
	4 STRONGLY AGREE	21	7.32		
33 SUMMARY OF ALL ITEMS ABOVE FOR WHICH MEANS ARE GIVEN.	1	467	7.21	3.050	6473
	2	1170	18.08		
	3	2411	37.25		
	4	2425	37.46		

FORTRAN-SURVEY RESULTS
ALL SCHOOLS

QUESTIONNAIRE ON ASSEMBLY BILL 400 -- SPRING 1978 -- NILS BAYLES STUDY
ALL ITEMS IN SURVEY

ITEM	CHOICE	TALLY	PERCENT	MEAN, IF ANY	N-COUNT FOR THIS ITEM
1 I AM A ...	1 STUDENT	1134	74.95		1513
	2 TEACHER	81	5.35		
	3 PARENT	298	19.70		
2 YEAR IN SCHOOL ... (STUDENTS ONLY)	1 8TH GRADE	3	0.26		1154
	2 9TH GRADE	320	27.73		
	3 10TH GRADE	271	23.48		
	4 11TH GRADE	305	26.43		
	5 12TH GRADE	255	22.10		
3 AFTER HIGH SCHOOL I PLAN TO ... (STUDENTS ONLY)	1 WORK	389	34.64		1123
	2 ATTEND COLLEGE	519	46.22		
	3 ATTEND TRADE SCHOOL	122	10.86		
	4 GET MARRIED	41	3.65		
	5 NO PLANS	52	4.63		
4 HIGHEST SCHOOL GRADE COMPLETED ... (PARENTS AND TEACHERS ONLY)	1 8TH GRADE	12	2.59		464
	2 9TH GRADE	35	7.54		
	3 10TH GRADE	46	9.91		
	4 11TH GRADE	54	11.64		
	5 GRADUATED	317	68.32		
5 YEARS OF SCHOOLING COMPLETED AFTER HIGH SCHOOL ... (PARENTS AND TEACHERS ONLY)	1 ONE	61	21.11		289
	2 TWO	54	18.69		
	3 THREE	34	11.76		
	4 COLLEGE GRADUATE	66	22.84		
	5 ADVANCED DEGREE	74	25.61		
6 MY GRADES IN HIGH SCHOOL WERE MOSTLY ...	1 A	252	16.91		1490
	2 B	538	36.11		
	3 C	566	37.99		
	4 D	117	7.85		
	5 F	17	1.14		
7 MY GRADES IN HIGH SCHOOL ENGLISH WERE MOSTLY ...	1 A	251	16.88		1487
	2 B	553	37.19		
	3 C	538	36.18		
	4 D	117	7.87		
	5 F	28	1.88		
8 WHEN A STUDENT CANNOT PASS A TEST OF BASIC SKILLS IT IS MOSTLY THE FAULT OF ...	1 THEIR SCHOOL	117	7.84		1492
	2 THEIR PARENTS	35	2.35		
	3 THE STUDENT	742	49.73		
	4 SOCIETY	31	2.08		
	5 ALL OF THESE	567	38.00		
9 REMEDIAL INSTRUCTION FOR STUDENTS WHO CANNOT PASS TESTS OF BASIC SKILLS SHOULD BE PAID FOR BY ...	1 FEDERAL TAX MONEY	430	29.27		1469
	2 STATE TAX MONEY	438	29.82		
	3 PARENTS OF STUDENTS WHO FAIL	268	18.24		
	4 TEACHERS OF STUDENTS WHO FAIL	73	4.97		
	5 STUDENTS WHO FAIL	260	17.70		

FORTRAN-SURVEY RESULTS
ALL SCHOOLS

QUESTIONNAIRE ON ASSEMBLY BILL 400 -- SPRING 1978 -- NILS BAYLES STUDY
ALL ITEMS IN SURVEY (CONTINUED)

ITEM	CHOICE	TALLY	PERCENT	MEAN, IF ANY	N-COUNT FOR THIS ITEM
10 REQUIRED REMEDIAL INSTRUCTION SHOULD BE CONDUCTED ...	1 AFTER REGULAR SCHOOL HOURS DAILY	185	12.43		1488
	2 DURING THE SUMMER	256	17.20		
	3 AFTER SCHOOL AND DURING SUMMER	212	14.25		
	4 IN PLACE OF ELECTIVES	645	43.35		
	5 IN ENGLISH AND MATH CLASSES	190	12.77		
11 THE LAW WHICH REQUIRES STUDENTS TO PASS A COMPETENCY TEST ON BASIC SKILLS (READING, WRITING, AND ARITHMETIC) BEFORE GRADUATION IS NEEDED.	1 STRONGLY DISAGREE	74	4.91	3.310	1506
	2 DISAGREE	129	8.57		
	3 AGREE	559	37.12		
	4 STRONGLY AGREE	744	49.40		
12 STUDENTS WOULD LEARN MORE IF HIGHER GRADING STANDARDS WERE ENFORCED IN THE SCHOOLS.	1 STRONGLY DISAGREE	159	10.60	2.666	1500
	2 DISAGREE	484	32.27		
	3 AGREE	556	37.07		
	4 STRONGLY AGREE	301	20.07		
13 STUDENTS CANNOT EXPECT TO BE SUCCESSFUL IN ADULT LIFE IF THEY HAVE NOT MASTERED BASIC SKILLS.	1 STRONGLY DISAGREE	80	5.34	3.229	1497
	2 DISAGREE	185	12.36		
	3 AGREE	544	36.34		
	4 STRONGLY AGREE	688	45.96		
14 EVERY HIGH SCHOOL GRADUATE SHOULD BE ABLE TO PASS A TEST OF BASIC SKILLS.	1 STRONGLY DISAGREE	30	1.99	3.483	1509
	2 DISAGREE	77	5.10		
	3 AGREE	536	35.52		
	4 STRONGLY AGREE	866	57.39		
15 ABOUT ONE-THIRD OF THE PRESENT HIGH SCHOOL GRADUATES LACK BASIC SKILLS.	1 STRONGLY DISAGREE	43	2.88	2.993	1495
	2 DISAGREE	296	19.80		
	3 AGREE	784	52.44		
	4 STRONGLY AGREE	372	24.88		
16 STUDENTS WHO COMPLETE TWELVE YEARS OF SCHOOLING SHOULD NOT BE DENIED A DIPLOMA EVEN IF THEY CANNOT PASS A TEST OF BASIC SKILLS.	1 STRONGLY AGREE	231	15.74	2.654	1468
	2 AGREE	399	27.18		
	3 DISAGREE	485	33.04		
	4 STRONGLY DISAGREE	353	24.05		
17 STUDENTS SHOULD NOT BE PROMOTED FROM ONE GRADE IN SCHOOL TO THE NEXT IF THEY CANNOT PASS A TEST OF BASIC SKILLS.	1 STRONGLY DISAGREE	122	8.16	3.005	1496
	2 DISAGREE	241	16.11		
	3 AGREE	641	42.85		
	4 STRONGLY AGREE	492	32.89		
18 REQUIRING STUDENTS TO PASS A TEST OF BASIC SKILLS BEFORE GRADUATION WILL INCREASE THE DROPOUT RATE.	1 STRONGLY AGREE	343	23.08	2.221	1486
	2 AGREE	598	40.24		
	3 DISAGREE	418	28.13		
	4 STRONGLY DISAGREE	127	8.55		

FORTRAN-SURVEY RESULTS
ALL SCHOOLS

QUESTIONNAIRE ON ASSEMBLY BILL 406 -- SPRING 1978 -- NILS BAYLES STUDY
ALL ITEMS IN SURVEY

(CONTINUED)

ITEM	CHOICE	TALLY	PERCENT	MEAN, IF ANY	N-COUNT FOR THIS ITEM
19 IT CAN BE ASSUMED THAT PRESENTL THOSE WHO RECEIVE A HIGH SCHOOL DIPLOMA HAVE MASTERED BASIC SKILLS.	1 STRONGLY AGREE	227	15.35	2.419	1479
	2 AGREE	599	40.50		
	3 DISAGREE	460	31.10		
	4 STRONGLY DISAGREE	193	13.05		
20 A SKILL TEST SHOULD BE REQUIRED FOR EVERY COURSE WHICH THE STATE REQUIRES FOR GRADUATION (ENGLISH, MATHEMATICS, SCIENCE, HEALTH, PHYSICAL EDUCATON, HISTORY, AND GOVERNMENT).	1 STRONGLY DISAGREE	146	9.81	2.811	1489
	2 DISAGREE	335	22.50		
	3 AGREE	663	44.53		
	4 STRONGLY AGREE	345	23.17		
21 TESTS OF BASIC SKILLS SHOULD BE GIVEN TO STUDENTS EVERY YEAR THAT THEY ARE IN SCHOOL.	1 STRONGLY DISAGREE	123	8.21	2.923	1499
	2 DISAGREE	298	19.88		
	3 AGREE	649	43.30		
	4 STRONGLY AGREE	429	28.62		
22 STUDENTS SHOULD NOT BE ALLOWED TO ENTER HIGH SCHOOL UNLESS THEY CAN PASS A TEST OF BASIC SKILLS.	1 STRONGLY DISAGREE	222	14.91	2.647	1489
	2 DISAGREE	416	27.94		
	3 AGREE	516	34.65		
	4 STRONGLY AGREE	335	22.50		
23 STUDENTS WHO CANNOT PASS A TEST OF BASIC SKILLS SHOULD NOT BE ALLOWED TO TAKE PART IN SCHOOL ACTIVITIES SUCH AS ATHLETICS, SPORTS, CLUBS, STUDENT COUNCIL, ETC.	1 STRONGLY DISAGREE	402	27.14	2.320	1481
	2 DISAGREE	447	30.18		
	3 AGREE	388	26.20		
	4 STRONGLY AGREE	244	16.46		
24 A PAPER AND PENCIL TEST IS A GOOD WAY TO DETERMINE STUDENTS BASIC SKILL LEVELS.	1 STRONGLY DISAGREE	163	11.07	2.667	1473
	2 DISAGREE	372	25.25		
	3 AGREE	730	49.56		
	4 STRONGLY AGREE	208	14.12		
25 TEACHERS SHOULD BE REQUIRED TO PASS A TEST OF BASIC SKILLS BEFORE TEHEY ARE ALLOWED TO TEACH.	1 STRONGLY DISAGREE	55	3.86	3.504	1502
	2 DISAGREE	91	6.06		
	3 AGREE	389	25.90		
	4 STRONGLY AGREE	964	64.18		
26 ADULTS DO NOT NEED BASIC SKILLS IN READING, WRITING, AND MATHEMATICS.	1 STRONGLY AGREE	88	6.15	3.303	1430
	2 AGREE	166	11.75		
	3 DISAGREE	397	27.76		
	4 STRONGLY DISAGREE	777	54.34		
27 STUDENTS SHOULD BE REQUIRED TO ATTEND REMEDIAL INSTRUCTION UNTIL THEY CAN PASS TESTS OF BASIC SKILLS.	1 STRONGLY DISAGREE	70	4.71	3.031	1486
	2 DISAGREE	254	17.09		
	3 AGREE	722	48.59		
	4 STRONGLY AGREE	440	29.61		

FORTRAN-SURVEY RESULTS
ALL SCHOOLS

QUESTIONNAIRE ON ASSEMBLY BILL 400 -- SPRING 1978 -- NILS BAYLES STUDY
ALL ITEMS IN SURVEY

(CONTINUED)

ITEM	CHOICE	TALLY	PERCENT	MEAN, IF ANY	N-COUNT FOR THIS ITEM
28 MORE MATHEMATICS COURSES SHOULD BE REQUIRED BEFORE GRADUATION (ONE MATHEMATICS COURSE IS THE PRESENT REQUIREMENT).	1 STRONGLY DISAGREE	163	11.00	2.721	1482
	2 DISAGREE	410	27.67		
	3 AGREE	586	39.54		
	4 STRONGLY AGREE	323	21.79		
29 MORE LANGUAGE ARTS -- ENGLISH AND READING -- COURSES SHOULD BE REQUIRED BEFORE GRADUATION (THREE ENGLISH COURSES IS THE PRESENT REQUIREMENT).	1 STRONGLY DISAGREE	253	17.19	2.389	1472
	2 DISAGREE	610	41.44		
	3 AGREE	393	26.70		
	4 STRONGLY AGREE	216	14.67		
30 I COULD PASS A SIXTH GRADE LEVEL TEST OF LANGUAGE ARTS -- ENGLISH AND READING -- BASIC SKILLS (MOST NEWSPAPERS ARE WRITTEN AT ABOUT SIXTH GRADE LEVEL).	1 STRONGLY DISAGREE	22	1.48	3.501	1486
	2 DISAGREE	66	4.44		
	3 AGREE	543	36.54		
	4 STRONGLY AGREE	855	57.54		
31 I COULD PASS A SIXTH GRADE LEVEL TEST OF BASIC SKILLS IN MATHEMATICS.	1 STRONGLY DISAGREE	20	1.35	3.621	1481
	2 DISAGREE	50	3.38		
	3 AGREE	402	27.14		
	4 STRONGLY AGREE	1009	68.13		
32 SIXTH GRADE LEVEL IS HIGH ENOUGH AS A STANDARD FOR BASIC SKILLS REQUIRED FOR GRADUATION FROM HIGH SCHOOL.	1 STRONGLY DISAGREE	439	30.85	2.188	1423
	2 DISAGREE	460	32.33		
	3 AGREE	341	23.96		
	4 STRONGLY AGREE	183	12.86		
33 SUMMARY OF ALL ITEMS ABOVE FOR WHICH MEANS ARE GIVEN.	1	3478	10.66	2.893	32629
	2	6985	21.41		
	3	11702	35.86		
	4	10464	32.07		

Appendix B

ELDORADO LESSON PLANNING

ELDORADO LESSON PLANNING

Course Title:

According to Course Numbering and Description Catalog or approved pilot.

General Course Objective:

General statements of intent describing changes and outcomes which the course is intended to produce in the lives of individual students. These are minimum outcomes which every student enrolled should be able to achieve. Hopefully, each student who completes the course will achieve these objectives and numerous other desirable outcomes.

Unit Objective:

An independent segment of the course described in behavioral terms. Should constitute 60 percent of material to be learned and be stated as a minimum achievable by all who complete the unit. Optional activities should constitute 40 percent of course content and provide other desirable outcomes.

Unit objectives may be of approximately one or two weeks duration and composed of many specific objectives.

Specific Objectives:

The unit is divided into a few supporting ideas which describe specific outcomes to be achieved by every learner. These are given in the District's Course of Study. Optional activities should provide additional desired outcomes.

Specific objectives should be achievable in approximately one or two days and cover one supporting idea within the unit. Teachers should develop their plans to accomplish these objectives.

Evaluation:

Pre-test based on specific objectives.

Post-test based on specific objectives.

It is expected that all students who achieve the specific objectives will receive a passing grade. Optional activities planned into the course will provide the opportunity to achieve more than a passing grade and learning in greater depth.

Methodology:

It is expected that students will be given experiences in using all their senses to learn. The lesson design should include large group instruction, inquiry groups, and independent study. More able students should receive more independent study time, while less able groups need more direction and structure.

The basic system of instruction should be inquiry with emphasis on student involvement through various discovery techniques. The instructor might also include role playing, pantomime, simulation, British debate, motivation into the text through "looking for", question techniques or other devices which allow student interaction and discussion. Learning must be structured by the teacher, but accomplished by a student who has been put into action. The teacher who takes the spotlight, becomes the star of the show, does all the talking, and takes over all of the activity, is almost certain to interfere with the learning of the students. The students in such a class learn in spite of the teacher and not because of the teacher. Students learn by what they experience. In order to learn, the learner must have the experience (engage in the activity, mental or otherwise) which produces learning.

The role of the teacher is to lead the students' interest with activities, to get them involved physically, mentally, emotionally, and psychologically. The teacher leads his students to analyze, evaluate, discuss, and interpret their experiences and draw generalizations and conclusions from them, and then make real-life applications of these ideas to modern problems and situations.

Lesson preparation should answer four basic questions:

1. What is the purpose of the lesson to be presented today?

2. What great idea will students discover today that will change their lives?

3. Will students feel successful in their learning experiences?

4. Will students experience, through examples, illustrations, analogies, case histories, role plays, dramatizations, object lessons and other activities, the desired lesson outcomes?

Appendix C

ELDORADO BASIC MATHEMATICS

COMPETENCY TEST

ELDORADO HIGH SCHOOL

BASIC MATHEMATICS

COMPETENCY TEST

DO NOT WRITE ON THE TEST

Mark your answers on the answer sheets provided and work very carefully.

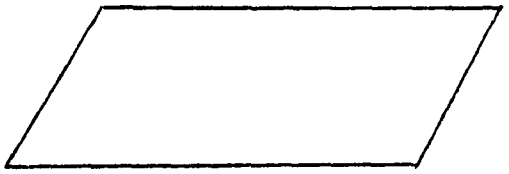
Revised: 1973

1. Divide 1.26 by .7

   (A) .018 (B) 1.8 (C) 2.8 (D) 18 (E) .18

2. Name the figure to the right:

   (A) square
   (B) parallelogram
   (C) trapezoid
   (D) rectangle
   (E) rhombus



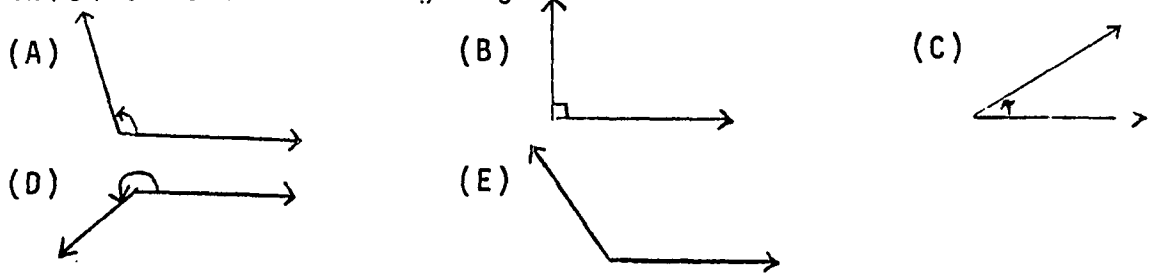
3. Subtract: 347 - .872

   (A) 346.128 (B) 338.28 (C) 345.128 (D) 347.128 (E) 347.872

4. Round off to the nearest ten: 5,296

   (A) 5,200 (B) 5,300 (C) 5,295 (D) 5,290 (E) 5,280

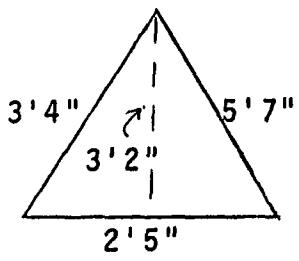
5. Which of the following angles is acute?



6. Divide: 1.512 by 14

   (A) .1008 (B) 1.08 (C) 1.008 (D) .108 (E) .18

7. Find the perimeter of the figure below:



   (A) 11 ft. 4 in.
   (B) 11 ft. 6 in.
   (C) cannot be done
   (D) 10 ft. 4 in.
   (E) 12 ft. 4 in.

8. Find the mean: 8.3, 4.7, 2.9, & 7.3 188

(A) 2.9 (B) 7.3 (C) 5.8 (D) 4.7 (E) 5.6

9. Multiply: $10 \times 1\frac{1}{5}$

(A) $\frac{12}{5}$ (B) 8 (C) 12 (D) $11\frac{1}{5}$ (E) $2\frac{2}{5}$

10. Divide: $2\frac{3}{4}$ by $4\frac{1}{8}$

(A) $1\frac{1}{6}$ (B) $\frac{2}{3}$ (C) $2\frac{5}{6}$ (D) $\frac{3}{2}$ (E) $1\frac{1}{2}$

11. Another way of writing the ratio 3 : 4 is

(A) 4/3 (B) 4 X 3 (C) 4 ÷ 3 (D) 3/4 (E) 4 : 3

12. Solve for x: $6x + 4 = 2x + 28$

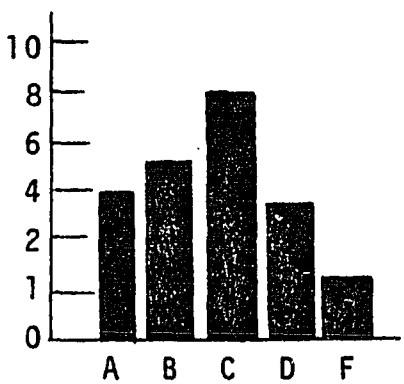
(A) -4 (B) -6 (C) 6 (D) 4 (E) 8

13. What is the correct graph for the following information?

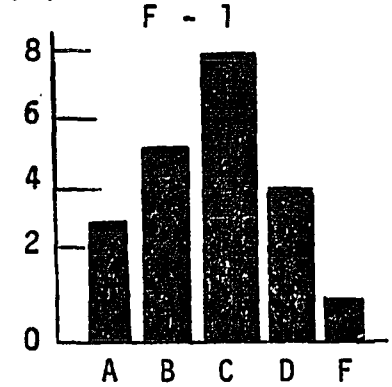
GRADES IN MATH CLASS

A - 3
B - 5
C - 8
D - 4
F - 1

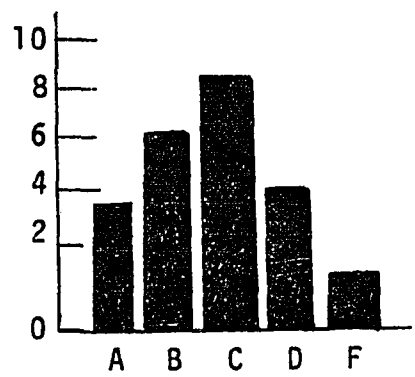
(A)



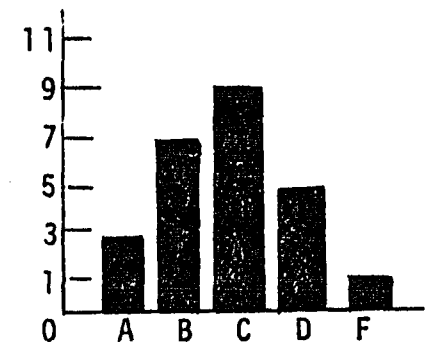
(B)



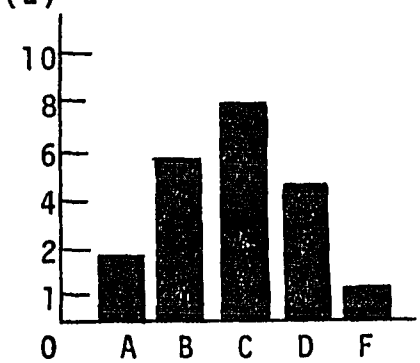
(C)



(D)



(E)



14. Subtract: 8.342 - 2.257

(A) 10.599 (B) 6.095 (C) 6.195 (D) 5.085 (E) 6.085

15. Change to inches: 3 yds. 2 feet 4 in.

(A) 132 in. (B) 60 in. (C) 139 in. (D) 136 in. (E) 64 in.

16. Find the next number in the table below:

x	4	5	7	11
2X + 1	9	11	15	?

(A) 25
(B) 22
(C) 23
(D) 14
(E) 21

17. Divide: 34 by .85

(A) 400 (B) .04 (C) 40 (D) 4 (E) .4

18. Change .85 to a per cent:

(A) .85% (B) .085% (C) .0085% (D) 8.5% (E) 85%

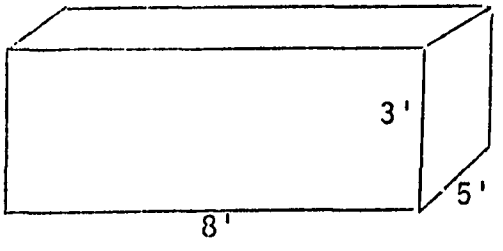
19. Find the mean (average) of the following: 140, 105, 135, 115, & 75

(A) 114 (B) 134 (C) 124 (D) 94 (E) 112

20. Subtract: $5 - 2\frac{3}{4}$

(A) $2\frac{1}{4}$ (B) $2\frac{3}{4}$ (C) $\frac{1}{4}$ (D) $3\frac{1}{4}$ (E) $3\frac{3}{4}$

21. The formula for finding the volume of a rectangular solid is V = LWH. Find the volume of the figure below:



(A) 120 ft.
(B) 16 cubic ft.
(C) 16 sq. ft.
(D) 120 sq. ft.
(E) 120 cubic ft.

22. Add: 321 + .872

(A) 321.872 (B) 320.872 (C) 329.872 (D) 1.193 (E) 320.128

23. Divide: 8 by $\frac{4}{5}$

(A) $\frac{5}{32}$ (B) 7 (C) $\frac{1}{7}$ (D) $\frac{1}{10}$ (E) 10

24. 6 is to 9 as 8 is to?

(A) 6 (B) 14 (C) 13 (D) 10 (E) 12

25. Multiply: 2 ft. 4 in.
X 8

(A) 3 yd. 1 ft. 2 in. (B) 6 yd. 8 in. (C) 5 yd. 8 in.
(D) 6 ft. 8 in. (E) 19 ft. 2 in.

26. 3^4 has what value?

(A) 27 (B) 81 (C) 243 (D) 12 (E) 7

27. Multiply: $2\frac{1}{3} \times 4\frac{2}{7}$

(A) 12 (B) $8\frac{2}{21}$ (C) 7 (D) $6\frac{3}{10}$ (E) 10

28. Add: (+18) + (-20) + (4) - (7)

(A) +5 (B) -13 (C) +9 (D) -5 (E) -9

29. Subtract: $2\frac{1}{3} - 1\frac{3}{4}$

(A) $\frac{7}{12}$ (B) $1\frac{5}{12}$ (C) $3\frac{5}{12}$ (D) $1\frac{7}{12}$ (E) $\frac{5}{12}$

30. Which of the following measurements belongs to the metric system?

(A) block (B) centimeter (C) pound (D) inch (E) feet

31. Combine: $14 - 3(2 + 1) + 4$ 191

(A) 23 (B) 9 (C) 7 (D) 37 (E) 1

32. Divide: $\frac{3}{5}$ by 10

(A) $\frac{1}{6}$ (B) 5 (C) $\frac{7}{50}$ (D)6 (E) $\frac{3}{50}$

33. If D = RT, fine (D) when R = 5 and T = 17

(A) 80 (B) 20 (C) 175 (D) 85 (E) 22

34. Multiply: 106 by .84

(A) 89.04 (B) .09924 (C) .9924 (D) .08904 (E) 99.24

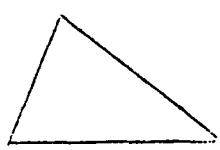
35. Round off to the nearest thousandth: 5.7346

(A) 5.735 (B) 5.7340 (C) 5.7346 (D) 5.7350 (E) 5.734

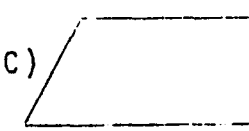
36. Find the perimeter of a rectangle whose length is 9 inches and whose width is 5 inches.

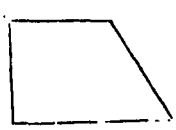
(A) 24 in. (B) 28 in. (C) 30 in. (D) 14 in. (E) 20 in.

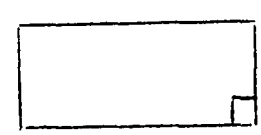
37. Which of the following is a rectangle?

(A) 

(B) 

(C) 

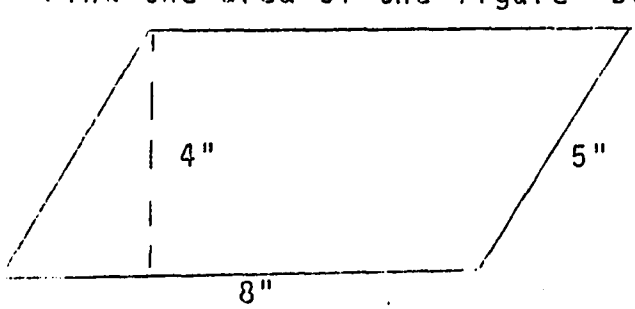
(D) 

(E) 

38. $(-1)^5$ has what value?

(A) +1 (B) +5 (C) 0 (D) -1 (E) -5

39. Find the area of the figure below:



(A) 40 sq. in.
(B) 40 in.
(C) 17 sq. in.
(D) 32 sq. in.
(E) 32 in.

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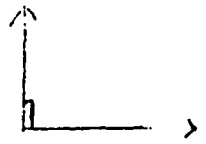
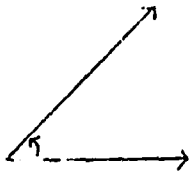
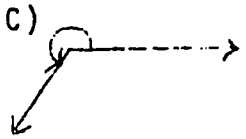
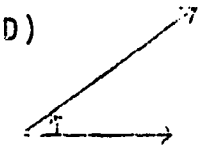
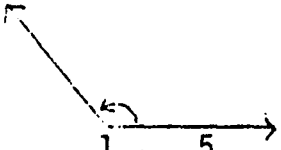
40. Which of the following angles is an obtuse angle?

(A) 

(B) 

(C) 

(D) 

(E) 

41. Divide: $\frac{1}{5}$ by $\frac{5}{8}$

(A) 8 (B) $3\frac{1}{8}$ (C) $2\frac{1}{8}$ (D) $\frac{8}{25}$ (E) $\frac{1}{8}$

42. Find the area of a rectangle whose length is eight feet and whose width is three feet.

(A) 11 ft. (B) 11 sq. ft. (C) 22 sq. ft. (D) 24 sq. ft. (E) 24 ft.

43. Add: 20.872 + .3 + .49

(A) 21.662 (B) 20.924 (C) 23.924 (D) 20.662 (E) 21.562

44. Round off to the nearest tenth: 5.7346

(A) 5.8 (B) 5.7 (C) 5.800 (D) 5.700 (E) 5.734

45. Solve for x: $3x - 2 = 16$

(A) 18 (B) 6 (C) 2 (D) 4.5 (E) 5

46. Add: $4\frac{1}{5} + 2\frac{3}{4}$

(A) $6\frac{19}{40}$ (B) $6\frac{4}{9}$ (C) $2\frac{4}{5}$ (D) $6\frac{19}{20}$ (E) $\frac{19}{20}$

47. Change to a common fraction:

.6 (A) $\frac{2}{5}$ (B) $\frac{1}{4}$ (C) $\frac{3}{4}$ (D) $\frac{4}{5}$ (E) $\frac{3}{5}$

48. Subtract: 2 yds. 1 ft. 7 in.
<u>- 1 yd. 2 ft. 9 in.</u>

(A) 1 ft. 10 in. (B) 1 yd. 1 ft. 10 in. (C) 1 yd. 1 ft. 8 in.
(D) 1 ft. 8 in. (E) 10 ft. 8 in.

49. If I = PRT, find P when I = 100, R = .05, and T = 2.

(A) 1000 (B) 10,000 (C) 100,000 (D) 10 (E) 100

50. What is the remainder in the following: $14\overline{)256}$

(A) 2 (B) 3 (C) 4 (D) 0 (E) 1

Appendix D

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DISSERTATION ABSTRACT

THE DEVELOPMENT OF A REPLICABLE MODEL FOR IMPLEMENTATION OF A HIGH SCHOOL MINIMUM COMPETENCY PROGRAM

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University of Nevada, Las Vegas, 1979

Problem. A twenty year decline on college entrance examination test scores achieved by high school students and two massive national studies of education in the United States, the Coleman Report and the National Assessment of Educational Progress, highlighted a nationwide concern about student achievement. This concern was reported in the media and eventually generated a demand for accountability in education. The accountability movement, as it was called, questioned why a national decline in student achievement had occurred and proposed various solutions for the problem. An outgrowth of the accountability movement--the back to the basics movement--acted upon the supposition held by professional educators and the public that a "return to the basics" emphasized by schools in the past was the solution to the decline in student achievement. The back to the basics movement became the minimum competency movement as the various state agencies rushed to mandate standards for minimum competency.

In Nevada the 1977 legislature enacted Nevada Revised Statute 389.015 which mandated proficiency testing and remediation for students with deficiencies in reading, writing, and mathematics. The

law provides that students must demonstrate proficiency to qualify to receive a high school diploma. A project begun at Eldorado High School, Las Vegas, Nevada attempted to answer the question: What must be done to develop and implement a high school minimum competency program in reading, writing and mathematics to insure that every student is afforded the opportunity to qualify for a diploma upon graduation from high school in compliance with the minimum competency law.

Procedure. The study follows the development of a minimum competency program in reading, writing and mathematics from inception in 1973 to completion in 1979. Data was obtained from various sources including: (1) A review of literature related to accountability, back to the basics, and minimum competency in the United States, (2) Group normative-referenced testing results, (3) Individual criterion-referenced test information including pre- and post-testing of students, (4) Information collected from students, teachers and parents by questionnaire, and, (5) Staff inservice and interviews with teachers and students. The information derived was accummulated in the process of designing and implementing a minimum competency model at Eldorado High School, Las Vegas, Nevada.

Findings. Analysis of the data collected as part of this study revealed: (1) Significant numbers of students were deficient in basic skills as indicated by normative-referenced and criterion-referenced test results. (2) Results from questionnaires administered

to students, teachers and parents indicated that the respondents agreed that standards for minimum competency are necessary and should be applied to all students who receive a high school diploma. (3) Students placed into remedial courses with a low pupil-teacher ratio demonstrated gains in skills as indicated by pre- and post-test results. (4) Development of the high school minimum competency model at Eldorado High School can be described in five processes: analysis, development, implementation, evaluation, and dissemination.

Conclusions. Minimum Competency is not merely a fad because laws and regulations in at least thirty-one states insure its perpetuation into the future. This fact leads to the conclusion: (1) A replicable model for a high school minimum competency program can be a useful tool for educators who are under mandate to comply with state laws or regulations requiring students to demonstrate minimum competency skills before being graduated from high school. (2) Diagnosis and remediation of high school students can be achieved in a well designed minimum competency program.

Recommendations. This study suggests the following recommendations: (1) Studies should be completed to verify the validity of minimum competency standards, testing procedures and remedial programs. (2) Longitudinal studies of minimum competency related to success in the adult world and student drop-out rates should be undertaken. (3) The relationship between teacher competency and student achievement should be explored. (4) The Carnegie Unit,

used to determine award of high school credit, should be investigated along with minimum competency standards for all courses required for high school graduation.