



NEW MEXICO STATE BOARD OF EDUCATION

**21ST CENTURY
DIVERSE PATHWAYS
TO THE HIGH SCHOOL DIPLOMA**

MICHAEL J. DAVIS
State Superintendent of Public Instruction

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The New Mexico State Board of Education's

VISION

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| <ul style="list-style-type: none"> • Equitable educational opportunities provided • High student performance achieved • Quality education delivered • Parents and communities involved • Continuous improvement expected |
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21ST CENTURY DIVERSE PATHWAYS TO THE HIGH SCHOOL DIPLOMA

INTRODUCTION

The New Mexico State Board of Education (NM SBE) has created a vision that would conceptualize, design, and implement policy leading to the creation of a more proactive and responsive high school system in order to ensure that all students are successful in achieving high academic standards resulting in receipt of a valued credential.

THE CURRENT SYSTEM

New Mexico's public high schools, like other states, tend to look similar, typically operating during the day between 8:00 a.m. and 3:00 p.m. on a rotating schedule. High schools differ in that schools at the local level select the type of programs and/or initiatives that they feel meet the needs of their student population. Reform efforts across the country have focused on all aspects of schooling, from how schools are governed to what curriculum is taught in the classroom. Since the early 1980's the United States has been trying to identify ways to significantly improve student achievement. School reform efforts have included programs designed to:

- (a) increase teacher knowledge and understanding through quality professional development;
- (b) expose students to more rigorous content and effective pedagogy; and
- (c) effect systemic change designed to address both policy and practices that bear on the improvement of teaching and ultimately student achievement.

Despite these efforts across the nation and in New Mexico, student achievement and drop out rates are at a level that is undesirable to the NM SBE.

In addition, teacher knowledge and understanding in critical core content areas as measured by content standards, benchmarks, and related performance measures continue to be a concern. However, there is a good understanding of the factors that contribute directly to higher student achievement and learning.

HIGH SCHOOL REFORM RESEARCH

Merely tweaking a school program without understanding the complexity of how the entire system must be realigned to better meet the academic needs of diverse learners results in little more than lip service to reform. W. Edwards Deming's operational philosophy of management titled Total Quality Management "represents a bundle of proven management principles and associated implementation processes which, when properly implemented, result in significant improvement in valued organization aims." (Lezotte, 1992) In 1991 the NM SBE adopted the *Standards for Excellence* as the regulation that was to guide schools and school districts through continuous improvement. The foundation for the regulation, then and today, is the Operational Tenets of the Effective Schools. The relationship between these tenets and Deming's 14 points for management sets the stage for effective high school reform.

In support of the continuous improvement philosophy, numerous theories exist around the idea of redesigning the high school by meeting the needs of all stakeholders: students, community members, business and industry, etc. Theories around various data and analysis that meet the needs of the stakeholders and create a high school credential that is valued were explored. A brief description of a few theories to understand the topic of high school reform provides guidance for the NM SBE concept.

- Leon Botstein (1997) proposes eliminating the 11th and 12th grades based on the fact that youth mature earlier than they did in the past and this more mature adolescent requires "too many teachers to spend too much time just keeping order." Botstein (1997) goes on to state that the organization of the curriculum and the way the day is structured is a problem and that "we must institute a curriculum that is based upon what pupils need and want to learn."
- During the five year span that Ted Sizer studied high schools across the country, he observed that the current settings were like shopping malls. The classes often vary in the degree of quality and offerings

very much like one store to another in a shopping mall. One class offers "...historical dates, personalities and incidents; the other, chemical tables; the other, fictional characters, authors and literary forms." (Sizer, 1998) Sizer's philosophy around redesigning the high school is based on Nine Common Principles that require students to take charge of their own learning.

- In late 1995, the U. S. Department of Education – Office of Vocational and Adult Education conducted a nationwide search for high schools that were implementing comprehensive and innovative education reform strategies. This project is known as the New American High Schools (NAHS). An example and a brief description of a NAHS follows:

Fredericksburg High School in rural Texas:

Located 75 miles outside of the metropolitan areas of Austin and San Antonio, Fredericksburg High School is a school that takes a "one student at a time" approach to education. All students develop individual career plans based on an area of interest and select one of seven career pathways, with the opportunity to review and modify their plans annually. The pathway in agricultural science and technology is particularly strong, integrating academic and technical skills in a curriculum that highlights all aspects of the industry. The school was one of five in Texas to be awarded a "Project PALS" grant through the National FFA (formerly Future Farmers of America) and the Kellogg Foundation to attract diverse learners. A highly successful new offering is "Principles of Technology," which integrates physics with the study of aerospace engineering. Second-year students in the program have previously worked with the U.S. Army White Sands Missile Range on every aspect of building rockets, from developing proposals to launching the rockets.

Despite its rural location, the school provides multiple opportunities for students to engage in early postsecondary and workplace experiences. Fredericksburg has articulation agreements with six area colleges and universities. In partnership with Austin Community College, students may take eight dual-credit courses tuition-free. Additional agreements allow students to gain as many as 27 hours of college credit "in escrow" for courses taken during high school.

The school has the added benefit of a small, close-knit community that actively supports its mission and has involved almost every aspect of school life. There are programs of support for all students. Students deemed at risk of academic failure are assigned a mentor, a teacher or administrator, who helps remove their academic and social barriers to success. A daily "Prime Time" period, offered to freshman and sophomore students, enables students to participate in tutoring, testing, or working individually with a teacher. (US Department of Education, 2000)

In a 1999 report *Aiming High: Strategies to Promote High Standards in High Schools – New American High Schools*, Mary Visher provides an overview of successful reform initiatives that focuses on 12 strategies that are implemented in the identified high schools:

- (1) All core activities of the school concentrate on student learning and achievement.
 - (2) All students are expected to master the same rigorous academic material. High expectations are established for student achievement.
 - (3) Staff development and planning emphasize student learning and achievement.
 - (4) The curriculum is challenging, relevant, and covers material in depth.
 - (5) Schools are using new forms of assessment.
 - (6) Students get extra support from adults.
 - (7) Students learn about careers and college opportunities through real-life experiences.
 - (8) Schools create small, highly personalized and safe learning environments.
 - (9) Technology is integrated into the classroom to provide high-quality instruction and students have opportunities to gain computer and other technical skills.
 - (10) Periods of instruction are longer and more flexible.
 - (11) Strong partnerships are forged with middle schools and colleges.
 - (12) Schools form active alliances with parents, employers, community members, and policymakers to promote student learning and ensure accountability for results.
- "In 1991, a U.S. government-sponsored commission, the Labor Secretary's Commission on Achieving Necessary Skills, or SCANS, tried to answer the question *What Does Work Require of Schools?*" (Packer, 1998) The purpose of the commission was to define the know-how need in the workplace and how this would be assessed. The Workplace Know-How is organized into two categories:

- Workplace Competencies – Effective workers can productively use:
 - *Resources*: They know how to allocate time, money, materials, space and staff.
 - *Interpersonal Skills*: They can work on teams, teach others, serve customers, lead, negotiate, and work well with people from culturally diverse background.
 - *Information*: They can acquire and evaluate data, organize and maintain files, interpret and communicate, and use computers to process information.
 - *Systems*: They understand social, organizational, and technological systems; they can monitor and correct performance; and they can design or improve systems.
 - *Technology*: They can select equipment and tools, apply technology to specific tasks, and maintain and trouble shoot equipment.
- Foundation Skills – Competent workers in the high-performance workplace need:
 - *Basic Skills*: Reading, writing, arithmetic and mathematics, speaking and listening.
 - *Thinking Skills*: The ability to learn, to reason, to think creatively, to make decisions, and to solve problems.
 - *Personal Qualities*: Individual responsibility, self-esteem and self-management, sociability and integrity.

Work around SCANS implementation has continued over the years, with its most recent being the development of the *Career Transcript System*. “Diplomas, degrees, certificates and transcripts are the tangible products that high schools, colleges and other teaching institutions bestow upon their students. Hopefully, these documents represent what student’s have learned. Academic transcripts are designed to serve students going on to other educational institutions. They are structured in an organized fashion and are usually certified by the issuing institution. Unfortunately, academic transcripts have little currency in the workplace.” (Packer, 1998) In the workplace, a job seeker generally takes a resume with them instead of a transcript, a resume that is created by the job seeker and is uncertified. The *Career Transcript* can be described as a summary of a portfolio of work that uses a common language, such as SCANS and contains data from three sources:

- 1) Standardized tests including national vendor tests (e.g., Microsoft) and other tests an individual may have taken (e.g., ACT, CTBS/Terra Nova).
- 2) Structured assessment of workplace performance such as a standardized task analysis that the individual has been assessed on (e.g., DACUM chart).
- 3) Structured assessment of classroom performance.

With the number of research-based initiatives available to high schools, an effective guidance program is basic to the success of any reform effort. Effective comprehensive guidance programs require that students know their strengths and interests and are aware of options available to them. (Stevens, 2000) “Several frameworks have been designed to support K-12 career guidance” (Stevens, 2000) programs. In order to meet the needs of our youth in a rapidly changing world, the use of ALL the resources in the current educational system is required. A well-defined guidance program addresses critical needs and has measurable results. To be comprehensive, a guidance program must contain:

- Content – Guidance competencies to be learned by students;
- An organizational framework – Guidance curriculum, individual planning, responsive services, and system support; and
- Resources – Human, financial and political. (Gysbers, 2000)

“Career guidance provides students with the knowledge and skills needed to develop realistic career goals and make appropriate decisions to carry out those goals.” (Hull, 2000) As in any planning process “ongoing career guidance is necessary to encourage all students to continue their education and training at the postsecondary level.” (Hull, 2000)

NEW MEXICO’S PROGRESS

Over the years many individuals have been involved in school reform across the state. New Mexicans have invested many hours, months and years developing and implementing programs based on theory and what they believe are the needs of the stakeholders. Common themes from the New Mexico community around the topic of high school reform have been:

- Do not lower the bar;
- Maintain high standards;
- Create mentorships for students; and
- Prepare students for the workforce.

Schools and school districts have worked diligently to implement programs that meet the needs of their communities. Some examples include, but are not limited to the following:

- Alternative Credit;
- Concurrent Enrollment;
- Articulation;
- Research based program implementation:
 - School-to-Work
 - Tech Prep
 - RE:Learning
 - Distance Education

New Mexico has secured federal funds that have provided opportunities to develop and implement structured programs that support existing state initiatives and enhance a student's opportunity to succeed academically and technically. Appendix A illustrates a structured career pathway for the career fields of Teaching and Engineering. This type of a program of study supports the NM SBE's Career-Focused Student Learning System. There are unique characteristics of a structured program such as:

- It is a school-within-a-school;
- Students select the program area they want to participate in;
- It focuses on a career theme;
- Students generally participate in some kind of work experience related to the career;
- Employers assist in guiding the program;
- Classes are typically smaller; and
- Funding is mixed (e.g., state funding, federal funding, private funding).

The curriculum for the program of study combines academic and technical contents. The technical content is based on a comprehensive needs assessment that includes an analysis of labor market needs to determine which field offers the best employment possibilities and will lead to employer support. This type of structure to a high school program of study assists high schools by linking them to the workplace, by placing academic course work material in a practical context and by combining rigor to create a first class program. (Stern, Raby, and Dayton, 1992) In New Mexico a number of school districts have designed their high schools in this manner. The Las Cruces Public Schools in partnership with New Mexico State University–Dona Ana Branch Community College and New Mexico State University–Main Campus have developed a career pathway to address the need for teachers. (See Appendix A)

Counseling services become an essential component of the educational process when a structured program of study is put into place. At a state level, efforts in providing direction toward implementation of a comprehensive guidance program have been in place since 1995 with the development of a technical assistance document titled *The New Mexico Counseling Services Program Guide*. This document provides guidance to schools and school districts for implementation of a comprehensive counseling program. The guidance provided in the technical assistance document is based on the research of the National Occupational Information Coordinating Council and outlines the three basic components of a well-defined guidance program: Content, An Organizational Framework and Resources. As stated in the document, "an effective school counseling program begins when students enter the school system and continues as they progress through the educational process." (NM SDE, 1995)

NM SBE CONCEPT

It is the NM SBE's vision to create an environment for high school students that allows them to enter into an educational program that is flexible and can result in a student's ability to succeed whenever they choose to exit the K-12 system.

In creating the vision a basic set of fundamental principles will guide all stakeholders in ensuring the success of all students. The NM SBE’s regulation *Standards for Excellence* sets the stage for student success, and the Operational Tenets of Effective Schools creates the foundation for the regulation – a sound fundamental basis for student success. As noted earlier the relationship between the tenets and W. Edwards Deming’s principles of Total Quality Management together set the stage for effective high school reform. (See Figure 1)

Deming’s 14 Principles of Management	Operational Tenets of Effective Schools (NM SBE regulation <i>Standards for Excellence</i> citation)
Create consistency of purpose for improvement of product and service.	Clear and focused mission (6NMAC3.2.8.7.4) Frequent monitoring of Student Progress (6NMAC3.2.8.7.6)
Management must be responsible for change.	Instructional leadership (6NMAC3.2.8.7.1)
Do not depend on mass inspection; build quality into the product.	Frequent monitoring of Student Progress (6NMAC3.2.8.7.6)
Do not award contracts on the basis of price alone.	Teachers and other members of the school community believe all students can learn. (6NMAC 3.2.8.7.3) Opportunity to learn and student time on task (6NMAC3.2.8.7.5)
Improve constantly, and thus constantly decreasing costs.	Instructional leadership (6NMAC3.2.8.7.1)
Institute training on the job.	Instructional leadership (6NMAC3.2.8.7.1)
Supervisors should aim to help people and gadgets do a better job.	Instructional leadership (6NMAC3.2.8.7.1) Clear and focused mission (6NMAC3.2.8.7.4)
Drive out fear, so that everyone may work effectively.	Safe and orderly environment (6NMAC3.2.8.7.2)
Break down barriers between departments to make teams.	Parent and community support (6NMAC3.2.8.7.7)
Eliminate slogans and targets for the workforce.	Clear and focused mission (6NMAC3.2.8.7.4) Parent and community support (6NMAC3.3.8.7.7)
Eliminate numerical quotas for the workforce (and management).	Frequent monitoring of Student Progress (6NMAC3.2.8.7.)
Remove barriers that rob people of the pride of workmanship.	Instructional leadership (6NMAC3.2.8.7.1) Safe and orderly environment (6NMAC3.2.8.7.2)
Encourage education and self-improvement for everyone.	Instructional leadership (6NMAC3.2.8.7.1)
Take action to accomplish the transformation.	Instructional leadership (6NMAC3.2.8.7.1)

Figure 1. *Alignment of W. Edwards Deming’s 14 Principles of Total Quality Management and the Operational Tenets of Effective Schools with citations from the NM SBE’s regulation Standards for Excellence.*

In conclusion, as research reflects, a sound basis for educational reform at all levels requires fundamental principles that a school community embraces to move the local educational system forward and into continuous improvement. At the direction of the NM SBE local schools and school districts develop and implement a strategic plan, known as the Educational Plan for Students Success (EPSS), for continuous improvement at all levels of the local educational system.

At a state level, “the NM SBE and the NM SDE have committed themselves to the education of ALL children in New Mexico to a high level to commensurate with the needs and demands of the 21st century” (Baldrige in Education Initiative Application, 1999). New Mexico is one of six states selected to participate in the Baldrige in Education Initiative (BiE IN). The Baldrige criteria provides a framework for aligning all its educational systems to achieve excellence and equity. The Baldrige model when fully implemented ensures that all stakeholders are aligned for a common message of high performance. By using the Baldrige criteria as the fundamental principles for educational reform at a state level and local school districts and schools using a strategic planning model to implement the local EPSS, the state’s educational system will, theoretically, align to ensure performance excellence.

Specific to the high school, it is the expectation from the NM SBE that each school implement an EPSS that ensures the success of each student by creating a system that meets the educational and social needs of the student. Reforming a high school around the philosophical statements of the NAHS, the SCANS workplace competencies and foundation skills, and other research will make the NM SBE’s vision to conceptualize, design and implement policy to create a more proactive and responsive high school system a reality.

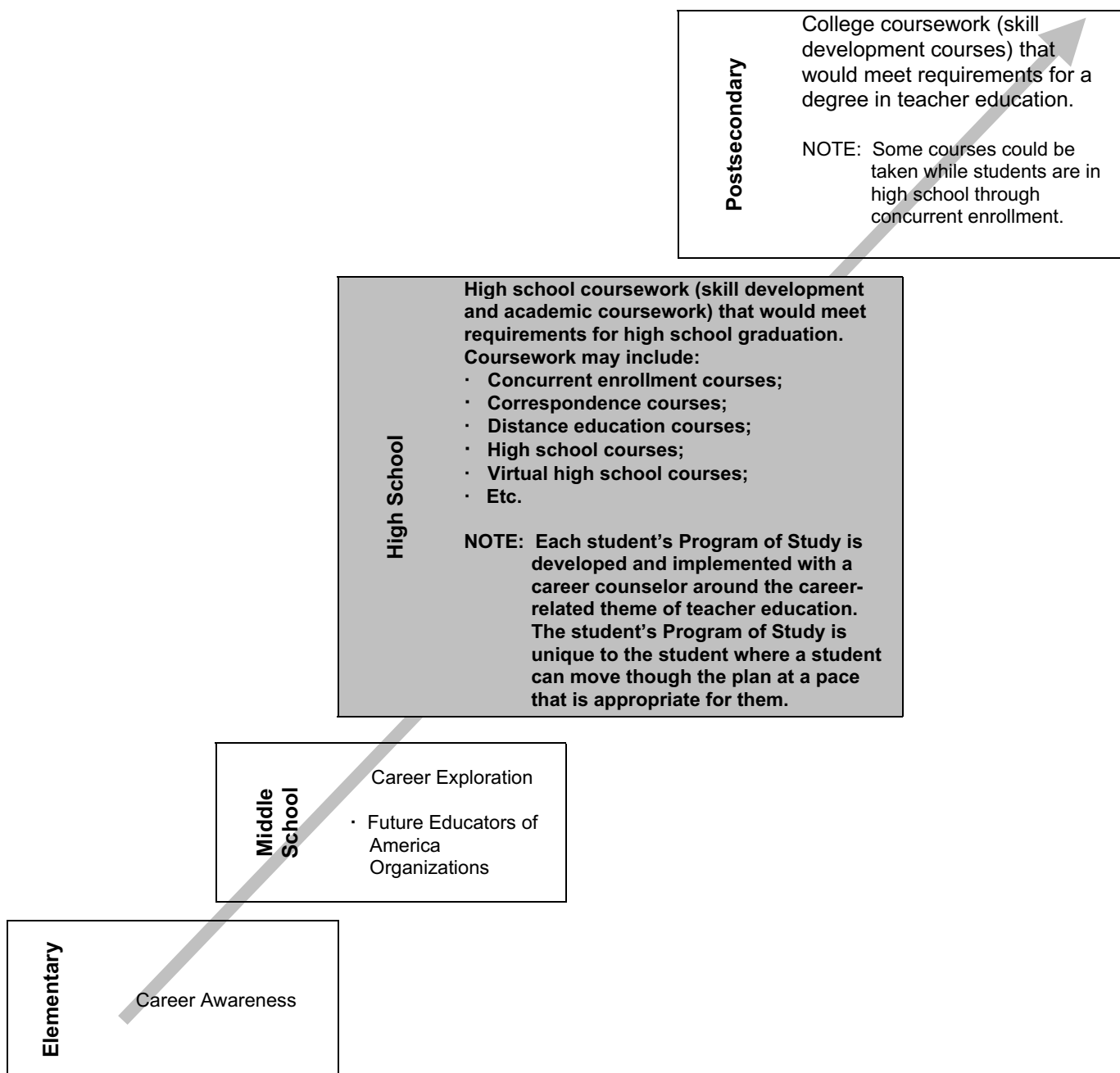
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APPENDIX A

“Do American high schools really need reconstructing? We believe so. We are concerned that the proportion of young people who complete a regular high school diploma appears not to have increased since the 1960s – while the economic penalty for not finishing high school has become more severe.” (Stern, Raby, Dayton 2000) The United States of America has seen more than thirty years of development and twenty years of evaluating career academies, which have proven to be one of the most solid building blocks for remaking American high schools. The career academies have been the foundation for broader strategies such as School-to-Work, the Coalition of Essential Schools, etc. The Las Cruces Public Schools, New Mexico State University – Dona Ana Branch Community College and New Mexico State University – Main Campus have partnered to create an aligned educational system that creates pathways with career-related themes. An example is a teacher pathway titled *Teachers Rule!*

TEACHERS RULE! Pathway



PRE-ENGINEERING Pathway

* This pathway illustrates a high school student receiving an industry credential along with the high school diploma.

Postsecondary

College coursework (skill development courses) that would meet requirements for an electronics or any engineering-related degree.

NOTE: Some courses could be taken while students are in high school through concurrent enrollment.

High school coursework (skill development and academic coursework) that would meet requirements for high school graduation. Coursework may include: <ul style="list-style-type: none"> • Concurrent enrollment courses; • Correspondence courses; • Distance education courses; • High school courses; • Virtual high school courses; • Etc. <p>NOTE: Each student's Program of Study is developed and implemented with a career counselor around the career-related theme of engineering. The student's Program of Study is unique to the student where a student can move through the plan at a pace that is appropriate for them.</p>					
Recommended Program of Study (Known as the Four-Year Plan) (Section 22-2-8.4.A)					
High School	English I	English II	English III – Technical • Emphasis on technical reading and writing	English IV	
	Algebra I – Technical • Emphasis on relation of math and science	Geometry and Trigonometry	Algebra II – Technical • Includes an introduction to Boolean Algebra number systems	Pre-calculus and Engineering Math	
	Physics I	Chemistry I	Biology I – Technical • Emphasis on technology and Microbiology	Science elective	
	Government/Economics	US History/Geography	World History/Geography		
	Communication Skills Physical Education				
	Business Technology: • Word processing, spread sheets, databases, etc.	Principles of Modern Science, Technology and Manufacturing: • Emphasis on electricity, electronics, circuits, measurement of electrical signals and use of electro-mechanical devices.	Computer Technology I • A+ Certification*	Computer Technology II • Operating Systems - NT Certification* or LINUX* or Cisco Certification*	
	Two additional electives				

Middle School

Career Exploration

Elementary

Career Awareness