



**ACTION PLANNING for Alaska's CAREER and TECHNICAL EDUCATION (CTE)
JANUARY 7-8, 2010**

The Talking Book Center -- 344 West 3rd Avenue, Suite 125, Anchorage, AK 99501

Participants

Name	Position and Organization
Mike Andrews	Director - Alaska Works Partnership, Inc.
Representative Alan Austerman	Representative - Alaska Legislature
Greg Cashen	Executive Director - Alaska Workforce Investment Board, Department of Labor and Workforce Development
Esther Cox	Chair - State Board of Education & Early Development
Cynthia Curran	Director - Division of Teaching and Learning Support, Department of Education & Early Development
Ray Depriest	CTE Director - Mat-Su Borough School District
Jim Hickerson	Superintendent - Bering Strait School District
Senator Charlie Huggins	Senator - Alaska Legislature
Jim Lynch	Chair - Alaska Workforce Investment Board
Paula Pawlowski	Director - Parental Engagement Program , Alaska PTA
Dawn Salesky	Vice-President - Education, Employment and Training Division, Kawerak, Inc.
Joni Simpson	School Counselor - Ben Eielson Jr./Sr. High School, Fairbanks North Star Borough School District
Fred Villa	Associate Vice-President of Workforce Programs, University of Alaska

Keynote Speakers

- Commissioner Click Bishop, Department of Labor and Workforce Development
- Commissioner Larry LeDoux, Department of Education and Early Development
- Esther Cox, Chair of the Alaska State Board of Education and Early Development
- Jim Lynch, Chair of the Alaska Workforce Investment Board

Moderators

- Helen Mehrkens, Department of Education and Early Development, CTE Administrator
- C. Jeff Selvey, Department of Labor and Workforce Development, CTE Coordinator

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September 2009

Issue No. 1



Alaska Workforce Investment Board Newsletter

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Important Dates

February 5th - 6th, 2010
Twentieth Annual CTE Conference in Anchorage
February 22nd - 23rd, 2010
AWIB in Juneau
February 24th, 2010
AGIA Steering Committee Meeting in Juneau
April 28th, 2010
Apprenticeship Conference in Anchorage
April 29th - May 1, 2010
ACTE Region V Conference in Anchorage

Dear Reader,

This is an exciting time for Career and Technical Education in Alaska. Labor Commissioner Click Bishop and Education Commissioner Larry LeDoux joined efforts to develop an Alaska Career and Technical Education plan. And at the recent national Association for Career and Technical Education Convention and Career Tech Expo, U.S. Secretary of Labor Jane Oates and U.S. Assistant Secretary of Education Brenda Dann-Messier called for new cooperation between the U.S. departments of labor and education to work as a team in preparing youth and adults for employment.

The [Alaska Workforce Investment Board \(AWIB\)](#) has developed this newsletter to connect schools, industry and stakeholders with AWIB and the Alaska Department of Labor and Workforce Development. In this issue we have an update on AWIB, career pathways, apprenticeship and Alaska Career Ready.

We are publishing every other month and featuring opportunities, programs and insider information about state of Alaska initiatives aimed at helping youth and adults find meaningful employment and postsecondary training. Also, this newsletter will have articles from the Department of Education and Early Development.

Let me know if you have ideas for future articles.



Sincerely,

Jeff Selvey
AWIB CTE Coordinator
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AWIB Update

Greg Cashen, Executive Director



The Alaska Workforce Investment Board (AWIB) meeting was held at the University of Alaska-Fairbanks on Oct. 26-27. The agenda included an update on the development of a healthcare workforce development plan, statewide CTE plan, Alaska Tech Prep, the AGIA Strategic Training Plan and registered apprenticeship. The board received briefings from the Employment Security Division, the Division of Business Partnerships, Research and Analysis, the Division of Vocational Rehabilitation, AVTEC, the workforce development budget and legislative issues. Jim Lynch was re-elected as AWIB chair and Michelle Zenger elected as AWIB vice chair.

The next AWIB meeting will be Feb. 22-23 in Juneau. The agenda will be developed over the next two months and posted on the AWIB website at <http://www.labor.alaska.gov/awib/>. The AWIB Board will meet May 3-4 and Oct. 25-26, with the location of the meetings to be determined by the Executive Committee at the next regularly scheduled meeting.

Jeff Selvey, AWIB CTE Coordinator, and Helen Mehrkens, CTE Administrator for the Department of Education and Early Development, have been working to implement statewide CTE strategies, including development of a comprehensive, integrated CTE system for Alaska that aligns training institutions and coordinates program delivery. To accomplish this goal, the commissioners of Labor and Workforce Development and Education and Early Development have asked all workforce development and CTE organizations to coordinate through the AWIB to implement statewide CTE initiatives for Alaska. The commissioners have designated Selvey and Mehrkens to lead the development and implementation of a CTE Plan on behalf of both departments and report their progress through the AWIB.

The AGIA Steering Committee met on Oct. 28 at the Fairbanks Pipeline Training Center. The meeting included presentations from Labor Commissioner Click Bishop regarding Training for the Gas Pipeline, an update from Denali on its gas pipeline project efforts, and an update on the AGIA implementation schedule and action to date for the four strategies contained in the AGIA Training Strategic Plan. The next AGIA Steering Committee is tentatively Feb. 24 in Juneau.

Career and Technical Education at the Department of Education and Early Development

Helen Mehrkens, CTE Administrator



What's in a Word, i.e. Career... Cluster? Pathway? Ladder? Program of Study? Plan?

A consensus is building among Alaska policy-makers that our workforce development system should support the transition of students through our education and training systems in an open, transparent and efficient manner. As more people are brought into the discussion, it may be helpful to clarify some of the current Career and Technical Education (CTE) terminology. For example, "career pathways" is a term that is appealingly descriptive, however for some it is a generic term and for others it indicates a specific level of program planning. The following terms are in current use in the education arena.

Career Cluster - This term is used nationally as an organizer of knowledge and skills needed by a broad industry or related industries. It is promoted by the CTE community and used by the U.S. Department of Education for reporting programs associated with federal Perkins Act grants. There are 16 career clusters identified at the national level (www.careerclusters.org). The University of Alaska has identified 14 career clusters. www.alaska.edu/swacad/wp/careerclusters/index.htm

Career Pathway - This term is used nationally to identify a sub-set within career clusters, i.e. as an organizer of knowledge and skills statements shared by closely related professions. For example, Health Sciences contain Therapeutic Services, Diagnostic Services and Health Informatics pathways within its career cluster. Clusters contain 2 to 9 career pathways.

Program of Study - A Program of Study identifies a sequence of instruction that is available to students during and after high school that provide the academic and skill competencies and credentials to qualify for employment in a career pathway. The process of developing a CTE Program of Study - or CTEPS - helps secondary and postsecondary educators and counselors identify the local academic and technical courses and experiences that most closely align their career goals.

<http://www.eed.state.ak.us/forms/CTE/05-08-049.doc>

Career Ladder - This is a new project of the Alaska Department of Labor's Research & Analysis

Section to identify occupations that are the most likely to lead to advancement to, or from, a particular occupation based on "real world" analysis of occupation-to-occupation movements of Alaska workers over the period 2001 through 2006. <http://labor.alaska.gov/research/careerladder/>

Personal Career Learning Plan - This is an individual learner's plan of courses and related experiences that will enable him or her to achieve personally chosen career goals. Known by a variety of titles, this plan typically contains a student's self-assessment of interests and abilities, evidence of skills and experience, and the courses required for the student to reach his or her career goal. At the secondary level, this plan should be reviewed and revised regularly as students mature and consider new experiences. It is intended to help make sense of educational requirements and help answer the perennial question "Why do I have to learn this?".

Developing Workers with Registered Apprenticeship

Gerry Andrews, Apprenticeship Coordinator

A few years ago there was a marketing campaign for the BASF chemical company that went like this, "We don't make a lot of the products you buy. We make a lot of the products you buy better." When it comes to workforce development, apprenticeship fits this slogan - it makes the system better. Historically craftsmen and professionals handed down their knowledge and skills through apprenticeship. Today's registered apprenticeship combines on-the-job learning and related instruction, with a progressive pay scale so that participants truly earn while they learn. Apprenticeship allows employers to establish the standards of proficiency they need while developing a local and loyal workforce.



With more than 900 apprenticeable occupations - from accounting and welding and supporting industries as diverse as health care and information technology - apprenticeship is not only for construction any more, and with recent commitments in the state of Alaska it's part of a connected system.

Today Alaska has about 80 apprenticeable occupations, 2,400 apprentices and 300 sponsors (employers and employer associations - both independent and union). This year, more than 750 apprentices became journey level workers.

Apprenticeship is emerging as an important component of Alaska's connected workforce development and educational system. Through this connected system, an individual can follow pathways from high school through Tech Prep courses to a registered apprenticeship or enroll at the university or in other post secondary education. With registered apprenticeship as component of the system, apprentices can earn up to 38 credits with the University of Alaska. Moreover, with more than 80 percent of our high school graduates not prepared to go directly to university, apprenticeship is a viable next step that opens a door to further education and training.

Let me sketch a connected educational and workforce development system for Alaska. Our educators have worked hard on developing Career Pathways, a tool to plan and organize a student's experience around industries. Another supportive and related component of the system is Career and Technical Education Programs of Study. These "roadmaps" create the vision for parents, students and counselors so that they can connect the elements of the system and make a smooth transition from school to a career. Today most school district and university campus employ this structure. Call them for more information.

Many employers have identified that most employees will need some education or training after high school. It had been identified that for most this will be less than two years of education. For those high school graduates who are not ready to go directly to university, there is an alternative. Apprenticeship can be that appropriate next step without closing the door on their education.

Like most opportunities, apprenticeship comes with a price, employment, this is the where employer, can affect change. By participating in apprenticeship, an employer becomes part of a connected educational/workforce development system and they can do something about the uncertainty that many youth feel about graduating from high school or university.

Because apprentices learn while they earn, they are better sooner. When they complete their apprenticeship, in about the same time as an academic degree, they are truly journey level workers. With this apprenticeship is talent development strategy to address the skilled worker shortage and to develop future managers while being a component of a connected system.

Think apprenticeship. Help grow our own and develop Alaska's best natural resource, its people.

Related Information

Alaska Department of Labor and Workforce Development
www.labor.alaska.gov

Alaska Apprenticeship Programs
www.jobs.alaska.gov/apprentice

Alaska Workforce Information
www.laborstats.alaska.gov

Alaska Career Ready Update: Alaska Students Go Platinum! Marcia Olson, Education Specialist

Alaska students go Platinum! Three Alaska high school juniors have recently earned the highest level of National Career Readiness Certificate (NCRC) that ACT awards - the Platinum Level. These students have demonstrated their high level of workplace foundational skills by scoring at least a Level 6 on three WorkKeys® assessments.



The Alaska Career Ready assessments for grades 6, 8, and 11 will be required beginning with the 2010-2011 school year. All 6th graders and 8th graders will be required to take three informal placement tests that are part of the WIN Career Readiness online courseware. All 11th graders will be required to take three standardized WorkKeys® tests (Applied Mathematics, Reading for Information, and Locating Information).

Since the inception of the Alaska Career Ready program in 2007, approximately 17 school districts have administered WorkKeys® assessments. Through October 2009, over 2,000 students have taken at least one WorkKeys® test, and over 1,200 have earned their NCRC: 322 Bronze, 728 Silver, 201 Gold, and 3 Platinum. Congratulations to these students who have earned their certificates!

There are currently four employers or programs in Alaska that now either require or recognize the NCRC or some combination of WorkKeys® tests:

- British Petroleum (technician positions - 4 WorkKeys® tests required)
- State of Alaska (Accounting Clerk and Office Assistant I positions - offer NCRC as an option for meeting minimum qualifications in lieu of diploma, GED, and experience)
- Operating Engineers Apprenticeship Program (Level 4 on all three tests required to proceed to interview stage)
- Associated Builders and Contractors (ABC) Apprenticeship Program (Level 4 WorkKeys® math is one option for applicants to demonstrate having met the math requirement.)

For more information about the Alaska Career Ready program, please visit our website at <http://www.careerready.alaska.gov/>.

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Common Terms from Career & Technical Education

CTE

Career & Technical Education – formerly Vocational Education

Alaska Career Ready:

Alaska Career Ready is an integrated program of job profiles, assessments, and lessons, culminating in a nationally recognized career readiness certificate. Components of this initiative include WIN, WorkKeys, and Career Ready Certificates. For more info visit <http://www.eed.state.ak.us/tls/CTE/workready.html>

All Aspects of Industry

All Aspects of An Industry identify nine aspects that are common to any business or industry. Learners should gain a strong experience in and a comprehensive understanding of these concepts and skills to be successful in their employment experiences. For more information visit: <http://www.eed.state.ak.us/tls/CTE/curriculum.html>

Career Clusters

The U.S. Department of Education has established 16 broad Career Clusters consisting of entry-level through professional-level occupations in a broad industry area (UA only uses 14 areas in their career cluster definitions, since they combined a couple of them). Each cluster includes the academic and technical skills and knowledge needed for further education and careers. Clusters are a great organizational tool for educators, counselors, parents, and students in their search for career information. They show the relationship between what students learn in school with the knowledge and skills they need for success in further education/training and careers. For more information visit: <http://www.eed.state.ak.us/tls/CTE/clusters.html>

Career Pathways

We use the term “pathways” to refer to specific types of occupations within each career cluster, with different knowledge and skills requirements. For example, in the career cluster “Architecture and Construction”, there are 3 pathways:

1. Design/Pre-construction
2. Construction
3. Maintenance/Operations

Each pathway within a career cluster has its own subset of knowledge and skill requirements. So, when designing a CTE class, we start by finding the career cluster, then determine the pathway within that career cluster, then look at the specific knowledge and skill requirements of that pathway to develop the course objectives and curriculum.

Career & Technical Student Organizations (CTSO)

Career and Technical Student Organizations (CTSOs) are an important component of local career and technical education in MSBSD.

Each organization provides:

- Standards-based education
- Leadership and professional development
- Job and career-related training
- Employability skills
- Citizenship and communication skills
- Opportunities to set and achieve goals

MSBSD has state and local chapters of Business Professionals of America (BPA); Agricultural Education (FFA); SkillsUSA ;and HOSA (Health Occupations Students of America) . For more info visit: <http://www.ctsoalaska.org/>

Carl Perkins Act:

The Carl D. Perkins Career and Technical Education Act (Perkins) was originally authorized in 1984, and most recently reauthorized in August 2006. The purpose of Perkins is to provide individuals with the academic and technical skills needed to succeed in a knowledge- and skills-based economy. Perkins supports career and technical education that prepares its students both for postsecondary education and the careers of their choice. For more information, visit <http://www.eed.state.ak.us/tls/CTE/perkins.html>

Cooperative Education (Coop):

Coop is a course directly related to the student's career goals. Coop is the capstone of an occupational training sequence. Work serves as a practical laboratory for reinforcing the in-school occupational training. Students receive both pay and school credit for their work.

Nontraditional Occupations (NTO):

Are occupations in which one gender accounts for less than 25 percent of all persons employed in that occupation. For more info visit: <http://www.eed.state.ak.us/tls/CTE/nto.html>

Tech Prep:

Tech Prep links a high school and college program in a career field so students can start their career education in high school and won't have to duplicate those studies later on. In a Tech Prep program, you begin your course of study in high school and continue in a postsecondary educational or apprenticeship program.

MSBSD has Tech Prep agreements with Mat Su College, UAA, UAF, AVTEC, and Charter College.

For more information visit

<http://www.matsuk12.us/intranet/RunScript.asp?Page=86&p=ASP\Pg86.asp>

Industry Certifications:

CTE students may earn Industry Certifications upon completion of a course or sequence of courses and demonstration of necessary skills. Examples include:

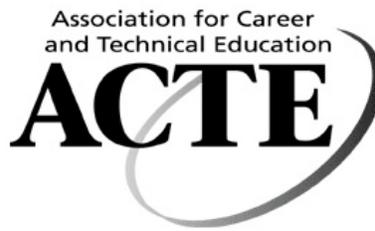
PROGRAM	ISSUING AGENCY	CERTIFICATION
Architecture and Construction	National Center for Construction Education and Research Occupational Health and Safety Administration	NCCER Core OHS Safety Card
Automotive Technician	AYES Certifications	Suspension & Steering, Brakes, and Engine Performance
Culinary Arts	ServSafe Food Safety ProStart Certification of Excellence	ServSafe ProStart
Health Sciences	American Heart Association State of AK - Certified Nursing Assistant State of Alaska	BLS-Provider CNA Emergency Medical Technician
Information Technology	CompTIA A+ CISCO Microsoft Office Specialist	A+ ICND MOS
Tourism	American Hotel & Lodging Institute	START
Welding	American Welding Society	AWS Level 1

Third Party Assessment:

Most industry certifications require that assessment be conducted by a third party who can be an impartial judge of knowledge and skill attainment.

Work Based Learning (WBL):

Work Based Learning refers to learning that results from work or volunteer experience that is planned to contribute to the intellectual and career development of students.



WHAT IS CAREER AND TECHNICAL EDUCATION?

- Career and technical education prepares both youth and adults for a wide range of careers. These careers may require varying levels of education – from high school and postsecondary certificates to two- and four-year college degrees. Career and technical education is offered in middle schools, high schools, community and technical colleges and other postsecondary institutions.

- Career and technical education covers a variety of challenging fields in diverse subject areas which are constantly evolving due to the changing global economy. Some of the career areas that students may enter through career and technical education include: Agriculture (farmers, animal scientists, turf grass specialists); Trade and Industrial (automotive technicians, carpenters, electricians); Business and Marketing (entrepreneurs, financial officers, arts/graphics designers); Family and Consumer Sciences (management and life skills, executive chefs, hotel managers); Health Occupations (nurses, physical therapists, biomedical engineers); Public Safety and Security (EMTs, emergency management and response coordinators); and Technology (3D animator, computer engineer, biotechnical engineer).

- According to the U.S. Department of Education’s Office of Vocational and Adult Education (OVAE), most high school students take at least one career and technical education course, and one in four students take three or more courses in a single program area. One-third of college students are involved in career and technical programs, and as many as 40 million adults engage in short-term postsecondary occupational training.

- Nearly one-third of the fastest growing occupations will require an associate degree or a postsecondary vocational certificate, according to a 2006 U.S. Department of Labor Bureau of Labor Statistics report.

- More than 80 percent of respondents in the 2005 National Association of Manufacturer’s Skills Gap Report indicated that they are experiencing a shortage of qualified workers overall – with 13 percent reporting severe shortages and 68 percent indicating moderate shortages. Career and technical education plays a vital role in helping American business close this gap by building a competitive workforce for the 21st Century.

The Association for Career and Technical Education (ACTE) is the nation’s largest education association dedicated to the advancement of education that prepares youth and adults for successful careers. For more information visit ACTE’s Web site at www.acteonline.org or call 800-826-9972.

What are the Benefits of Personal Learning Plans?

Personal Learning Plans provide an opportunity for meeting the needs of all students. PLPs will help students reach their goals and impact student achievement and school improvement.

Research indicates the following benefits of implementing Personal Learning Plans: (NASSP, 2004)

Benefits to Students

- Provide students with the valuable learning experience of goal setting and how to attain their goals (Brown & Krane, 2000).
- Encourage students to be fully involved in making decisions about their learning, earning, and living goals (Zimmerman & Schunk, 2001) (Lapan, 2004).
- Provide students with an understanding of how education is relevant to their career goals (Baker & Taylor, 1998).

Benefits to Parents

- Provide the students' families increased opportunities to be involved in their children's education (Brown & Krane, 2000).

Benefits to Schools

- Improve course enrollment patterns (Smith & Niemi, 2001).
- Increase student achievement (Frome, 2001).
- Improve relationships between students, parents, schools, and community (R.W. Larson, 2000).
- Increase student attendance, motivation, and engagement in school (Easton & Englehard, 1982).
- Increase extracurricular activity participation (Mahoney, Cairns, & Farmer, 2003).
- Increase the number of students prepared for postsecondary entrance requirements (Easton & Englehard, 1982).

Helpful Resource

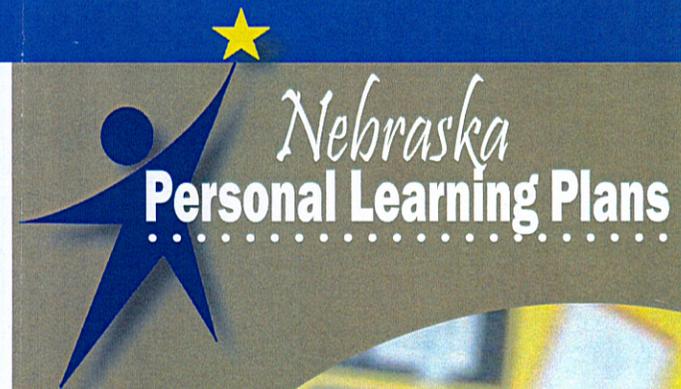
An electronic Personal Learning Plan is available at www.NebraskaCareerConnections.org. NebraskaCareerConnections is an online tool to assist students, parents, and educators with the Personal Learning Plan process.

For Additional Information

Contact: Nebraska Department of Education
Curriculum and Instruction Team
Donna Vrbka, School Counseling
301 Centennial Mall South
Lincoln, NE 68509
Phone: 402-471-4811
Email: donna.vrbka@nde.ne.gov
Websites: www.nde.state.ne.us/cared
www.nde.state.ne.us/nce



Developed by the
Nebraska Department of Education



A Student Plan for Learning, Earning, and Living

What is a Personal Learning Plan (PLP)? ►

A Personal Learning Plan is a student's current plan of coursework and extended learning activities to meet the student's learning, earning, and living goals.

Ideally, the initial Personal Learning Plan will be developed in 7th grade and updated on a yearly basis throughout high school and the postsecondary years.

Why use a Personal Learning Plan?

A Personal Learning Plan helps to personalize education for each student and enables the student to prepare for the maximum number of opportunities possible upon high school graduation.

Who Should be Involved in the Personal Learning Plan Process?

Students, parents, and the school will all work together to consider choices for the student's educational experiences. When students, parents, and the school plan together, each student receives support from both home and school to meet the goals of his/her Personal Learning Plan.

Parental Involvement

Research indicates that students rely heavily on parents' advice when making postsecondary plans and decisions. Meaningful parental involvement is vital to the effectiveness of Personal Learning Plans.

Personal Learning Plan							
Student Information							
Student Name: _____							
Career Cluster(s) of Interest: _____							
Plan Last Revised On: ____/____/____ Grade: 7 8 9 10 11 12							
Coursework							
	7 th Grade	8 th Grade	9 th Grade	10 th Grade	11 th Grade	12 th Grade	Advanced Coursework
English							
Math							
Science							
Social Studies							
Nebraska Career Education Classes							
Additional Requirements & Electives							
Extended-Learning							
	7 th Grade	8 th Grade	9 th Grade	10 th Grade	11 th Grade	12 th Grade	Advanced Coursework
School Activities							
Community Activities							



Rigorous, relevant coursework to meet learning, earning, and living goals

Helpful school and community activities to meet learning, earning, and living goals

Beginning the Personal Learning Plan Process

The Personal Learning Plan process begins with a discussion of each student's current learning, earning, and living goals. Some sample questions for discussion with the student are listed below:

Learning

- What are your academic strengths and academic areas that need improvement?
- What postsecondary options are you considering?
- Does your academic transcript meet postsecondary entrance requirements?

Earning

- What careers are of interest to you?
- What is required to be successful in your career of interest?
- What is the earning potential of your career of interest?

Living

- Where would you like to live?
- How can you prepare yourself for the challenges of everyday life?
- How will you balance school, family, career, and leisure activities?



Personal Learning Plan Purpose

Skills for Learning

Academic Development

- Acquire the attitudes, knowledge, and skills that contribute to effective learning in school and across the life span
- Create and implement an academic/career plan that leads to realistic and relevant postsecondary options and career goals
- Understand the relationship of academics to the world of work, life at home, and in the community

Skills for Earning

Career Development

- Acquire the skills necessary to investigate the world of work, gain a knowledge of self, and make informed career decisions
- Develop strategies for achieving future career goals that ensure economic success and personal satisfaction
- Understand the relationship between personal qualities, education, training, and the world of work

Skills for Living

Personal/Social Development

- Acquire the knowledge, attitudes, and interpersonal skills to understand and respect self and others
- Set goals based on priorities about family, work, and leisure activities and take the action necessary to achieve them
- Make good decisions about safe and healthy choices for life

Marketing, Sales, and Service

- Buying and Merchandising
- Distribution and Logistics
- e-Marketing
- Management and Entrepreneurship
- Marketing Communications and Promotion
- Marketing Information Management and Research
- Professional Sales and Marketing

Business, Management, and Administration

- Administrative and Information Support
- Business Analysis
- Business Financial Management and Accounting
- Marketing
- Human Resources
- Management

Hospitality and Tourism

- Lodging
- Recreation, Amusements, and Attractions
- Restaurants and Food and Beverage Services
- Travel and Tourism

Law, Public Safety, and Security

- Correction Services
- Emergency and Fire Management Services
- Law Enforcement Services
- Legal Services
- Security and Protective Services

Government and Public Administration

- Revenue and Taxation
- Foreign Service
- Governance
- National Security
- Planning
- Public Management and Administration
- Regulation

Human Services

- Consumer Services
- Counseling and Mental Health Services
- Early Childhood Development and Services
- Family and Community Services
- Personal Care Services

Education and Training

- Administration and Administrative Support
- Professional Support Services
- Teaching/Training

Agriculture, Food, and Natural Resources

- Animal Systems
- Agribusiness Systems
- Environmental Service Systems
- Food Products and Processing Systems
- Natural Resources Systems
- Plant Systems
- Power, Structural, and Technical Systems

Environmental and Agricultural Systems

Arts, A/V Technology, and Communications

- Audio/Video Techniques
- Journalism and Broadcasting
- Performing Arts
- Printing Techniques
- Telecommunications Techniques
- Visual Arts

Information Technology

- Information Support and Services
- Interactive Media
- Network Systems
- Programming and Software Development

Foundation Knowledge and Skills

Academic and Technical Literacy

- Employability
- Ethics
- Systems
- Teamwork
- Career Development
- Problem Solving
- Critical Thinking
- Information Technology Application
- Legal Responsibilities
- Communication
- Safety, Health, and Environment

Health Sciences

Health Science

- Biotechnology Research and Development
- Diagnostic Services
- Supportive Services
- Health Informatics
- Therapeutic Services



Nebraska Career Education

Career Fields and Clusters Model

Transportation, Distribution, and Logistics

- Facility and Mobile Equipment Maintenance
- Health, Safety, and Environmental Management
- Logistics Planning and Management Services
- Sales and Services
- Transportation Operations
- Transportation/Systems Infrastructure Planning, Management, and Regulation
- Warehousing and Distribution Center Operations

Architecture and Construction

- Construction
- Design and Pre-construction
- Maintenance and Operations

Manufacturing

- Production
- Manufacturing Production Process Development
- Maintenance, Installation, and Repair
- Quality Assurance
- Logistics and Inventory Control
- Health, Safety, and Environmental Assurance

Science, Technology, Engineering, and Mathematics

- Engineering and Technology
- Science and Math (Investigative, Informational, and Educational)

Student Goal Setting Discussion Guide

Directions: Discuss and answer the following questions to help define your goals for living, earning, and learning.

PART 1: SETTING LIVING GOALS

1. Where would you like to live?

- Nebraska
- Different State within the United States
- Outside of the United States
- No Preference

2. What size of community would you prefer to live in?

- Less than 5,000 population (*examples: Bridgeport, NE; Broken Bow, NE; Waverly, NE*)
- 5,000 to 25,000 population (*examples: Lexington, NE; Hastings, NE; Beatrice, NE*)
- 25,000 to 100,000 population (*examples: NorthPlatte, NE; Grand Island, NE; Bellevue, NE*)
- 100,000 to 500,000 population (*examples: Lincoln, NE; Sacramento, CA; Arlington, VA*)
- 500,000 to 1,000,000 population (*examples: Omaha, NE; Denver, CO; Indianapolis, IN*)
- Greater than 1,000,000 population (*examples: Phoenix, AZ; Chicago, IL; New York, NY*)

3. Different careers require different working schedules. Considering your preferences for daily routine and time available for family and leisure activities, what schedules would you be willing to work if it is part of your career choice?

- Days
- Nights
- Weekends
- Holidays
- Combination of Schedules
- No Preference

4. Different careers require different working environments. What working environment do you prefer?

- Indoors (*controlled environment*)
- Outdoors (*variable environment*)
- Combination of Indoors and Outdoors
- No Preference

5. I am most interested in:

- Being an Employee (working for someone else)
- Being an Entrepreneur (owning your own Business)
- No Preference

PART 2: SETTING EARNING GOALS

6. Which Career Cluster(s) are you considering as a future career possibility?

- | | |
|---|--|
| <input type="checkbox"/> Agriculture, Food, & Natural Resources | <input type="checkbox"/> Hospitality & Tourism |
| <input type="checkbox"/> Architecture & Construction | <input type="checkbox"/> Human Services |
| <input type="checkbox"/> Arts, A/V Technology, & Communication | <input type="checkbox"/> Information Technology |
| <input type="checkbox"/> Business, Management, & Administration | <input type="checkbox"/> Law, Public Safety, & Security |
| <input type="checkbox"/> Education & Training | <input type="checkbox"/> Manufacturing |
| <input type="checkbox"/> Finance | <input type="checkbox"/> Marketing, Sales, & Service |
| <input type="checkbox"/> Government & Public Administration | <input type="checkbox"/> Science, Technology, Engineering, & Mathematics |
| <input type="checkbox"/> Health Science | <input type="checkbox"/> Transportation, Distribution, & Logistics |

7. Do the knowledge and skills required for your career cluster goals seem to match with what you like to do on a daily basis? Yes No

8. How important is it to you to have a career that provides a high income earning potential?

- Extremely Important
- Very Important
- Somewhat Important
- Not Important

9. Check the activities that you have completed to help you match your earning goals with your learning goals:

- Explored the income earning potential of career cluster/pathway of interest to me
- Explored the levels of education and training required for success in the career cluster/pathway of interest to me
- Studied the relationship between my future income earning potential and desired standard of living
- Researched financial resources to help pay for education or training required

10. Identify two people whom you can talk to and who can support you in reaching your postsecondary/career goals:

Name: _____
Title: _____
Phone: _____
Email: _____

Name: _____
Title: _____
Phone: _____
Email: _____

PART 3: SETTING LEARNING GOALS

11. What subjects are your strengths?

- English
- Math
- Reading
- Science
- Social Studies
- Visual and Performing Arts
- World Language
- Writing
- Career Education Classes
- Other _____

12. What subjects would you like to improve?

- English
- Math
- Reading
- Science
- Social Studies
- Visual and Performing Arts
- World Language
- Writing
- Career Education Classes
- Other _____

13. What postsecondary options are you considering?

- Employment/On-the-Job Training
- License/Certificate
- Associate's Degree
- Bachelor's Degree
- Master's/Doctoral/Professional Degree
- Military
- Undecided
- Other _____

14. Does your current academic transcript (credits, grades, and test scores) meet entrance requirements of your postsecondary goal? Yes No

15. Do you know about opportunities for college credit available to you during high school? Yes No

16. A. Do you participate in school-based activities? Yes No
If yes, do the school-based activities support your postsecondary/career goals? Yes No
B. Do you participate in community-based activities? Yes No
If yes, do the community-based activities support your postsecondary/career goals? Yes No

17. Does your Personal Learning Plan follow a recommended plan of study for your career cluster of interest? Yes No

18. Identify any obstacles that may interfere with the successful completion of your identified postsecondary/career goal?

- Attendance
- Financial Concerns
- Grades
- Learning Difficulties
- Number of Credits
- Personal Issues
- Physical Health
- Study Habits
- Suspensions/Detentions
- Test Taking
- Undecided About Future
- Other _____

■ High School Transcript

Student Information

_____	_____	_____
Last Name	First Name	Middle Name

Home Address		

_____	_____	_____
City	State	Zip
_____		_____
Date of Birth		Phone Number

School Information

Name of School		

Address		

_____	_____	_____
City	State	Zip
_____		_____
Phone Number		Fax Number

Grade/Year	Grade <u>9</u> Year _____			Grade <u>10</u> Year _____			Grade <u>11</u> Year _____			Grade <u>12</u> Year _____		
Subject	Course#	Grade	Credit	Course#	Grade	Credit	Course#	Grade	Credit	Course#	Grade	Credit
English												
Math												
Science												
Social Studies												
Health/PE												
World Language												
NCE Classes												
Other												

■ Standardized Testing/Assessment Scores/Class Rank

Test/Assessment	Test Date	Score	CALS Assessment	Test Date	Score
State Standards			Career Development		
Standardized Assessments			Communication		
XPLORE, PLAN, ACT			Employability Skills		
PSAT, SAT			Information Technology Applications		
ASVAB			Leadership & Teamwork		
Other Interest, Aptitude, Skills			Legal Responsibilities & Ethics		
Rank in Class			Problem Solving & Critical Thinking		
Grade	Rank	Class Size	Safety, Health, & Environmental		
Grade 11			Systems		
Grade 12			Technical Skills		

■ School and Extracurricular Activities, Academic Awards, etc.

1.
2.
3.
4.
5.
6.
7.

■ Attendance Record

	Grade 9	Grade 10	Grade 11	Grade 12
Days Present				
Days Absent				

■ Personal Learning Plan

■ Student Information			
Student Name:			
Career Cluster(s) of Interest:			
Plan Last Revised On:	___/___/___	Grade:	<input type="checkbox"/> 7 <input type="checkbox"/> 8 <input type="checkbox"/> 9 <input type="checkbox"/> 10 <input type="checkbox"/> 11 <input type="checkbox"/> 12

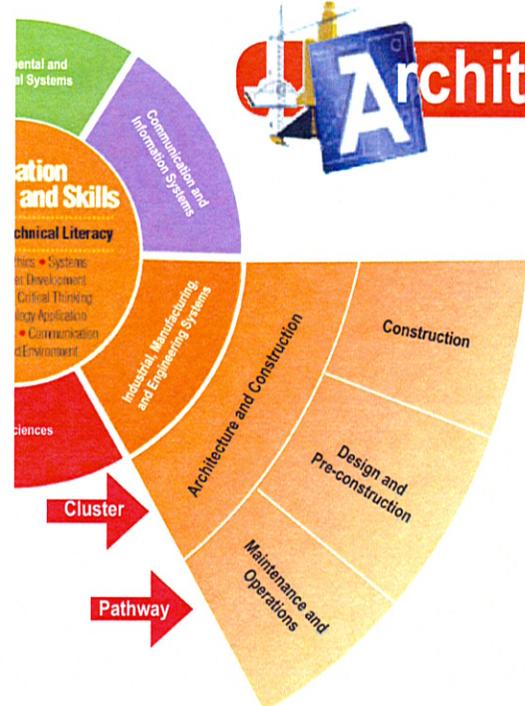
■ Coursework							
	7 th Grade	8 th Grade	9 th Grade	10 th Grade	11 th Grade	12 th Grade	Advanced Coursework
English							
Math							
Science							
Social Studies							
Nebraska Career Education Classes							
Additional Requirements & Electives							

■ Extended-Learning							
	7 th Grade	8 th Grade	9 th Grade	10 th Grade	11 th Grade	12 th Grade	Advanced Coursework
School-Based							
Community-Based							



Architecture and Construction Plan of Study

This career cluster plan of study is a source of information to reference as you develop your own Personal Learning Plan. This plan lists *examples* of suggested coursework. Courses will vary according to the availability in each school district. Plans of study should meet high school graduation requirements as well as entrance requirements for a variety of postsecondary options within this career cluster.



The Architecture and Construction Career Cluster has three pathways that allow students to further explore and discover their favorite career specialties. Students can choose from several levels of education and training to pursue a career in their chosen pathway.

Pathways	Postsecondary Options
<input type="checkbox"/> Construction	<ul style="list-style-type: none"> High School Diploma, On-the-Job Training
<input type="checkbox"/> Design & Preconstruction	<ul style="list-style-type: none"> Certificate/License Associate's Degree
<input type="checkbox"/> Maintenance & Operations	<ul style="list-style-type: none"> Bachelor's Degree Master's/Doctoral/Professional Degree Military

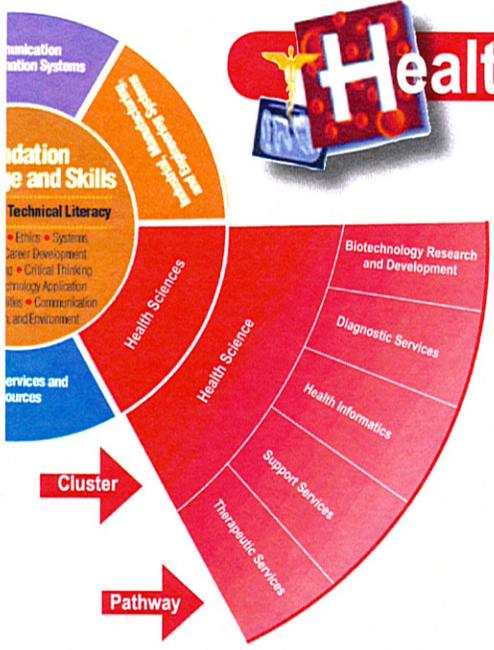
■ Coursework				
Subject	7th -8th Grade	9th - 10th Grade	11th - 12th Grade	Advanced Coursework for Postsecondary Credit
English	<input type="checkbox"/> English	<input type="checkbox"/> English I <input type="checkbox"/> English II	<input type="checkbox"/> English III <input type="checkbox"/> English IV	<input type="checkbox"/> Academic Transfer <input type="checkbox"/> Advanced Placement <input type="checkbox"/> Early Entry Program
Math	<input type="checkbox"/> Math <input type="checkbox"/> Pre Algebra <input type="checkbox"/> Algebra I	<input type="checkbox"/> Geometry <input type="checkbox"/> Algebra I <input type="checkbox"/> Algebra II	<input type="checkbox"/> Algebra II <input type="checkbox"/> Trigonometry <input type="checkbox"/> Pre-Calculus <input type="checkbox"/> Calculus	<input type="checkbox"/> Academic Transfer <input type="checkbox"/> Advanced Placement <input type="checkbox"/> Early Entry Program
Science	<input type="checkbox"/> Earth Science <input type="checkbox"/> Biology	<input type="checkbox"/> Biology I <input type="checkbox"/> Chemistry I	<input type="checkbox"/> Chemistry I <input type="checkbox"/> Physics <input type="checkbox"/> Anatomy/Physiology	<input type="checkbox"/> Academic Transfer <input type="checkbox"/> Advanced Placement <input type="checkbox"/> Early Entry Program
Social Studies	<input type="checkbox"/> American History <input type="checkbox"/> Geography	<input type="checkbox"/> American History <input type="checkbox"/> Geography <input type="checkbox"/> World History	<input type="checkbox"/> American History <input type="checkbox"/> Economics <input type="checkbox"/> Government/Civics <input type="checkbox"/> Modern Problems <input type="checkbox"/> Psychology/Sociology	<input type="checkbox"/> Academic Transfer <input type="checkbox"/> Advanced Placement <input type="checkbox"/> Early Entry Program
Nebraska Career Education Classes	<input type="checkbox"/> Career Cluster Exploratory Class <input type="checkbox"/> Other Career Education Courses	<input type="checkbox"/> Architecture <input type="checkbox"/> AutoCAD <input type="checkbox"/> Automotive Mechanics <input type="checkbox"/> Cabinetmaking <input type="checkbox"/> Computer Applications and Programming <input type="checkbox"/> Construction <input type="checkbox"/> Electronics <input type="checkbox"/> Industrial Technology <input type="checkbox"/> Manufacturing <input type="checkbox"/> Technical Drafting <input type="checkbox"/> Welding		<input type="checkbox"/> Advanced Drafting <input type="checkbox"/> Advanced Mechanical Drafting <input type="checkbox"/> Architectural/Engineering/Mechanical Drafting <input type="checkbox"/> Auto CAD, Auto CAD II <input type="checkbox"/> Building Construction <input type="checkbox"/> Carpentry Tools & Machines <input type="checkbox"/> Construction Technology <input type="checkbox"/> Drafting I <input type="checkbox"/> Industrial Technology Drafting <input type="checkbox"/> Metals/Metals Construction <input type="checkbox"/> Woodworking/Construction
Additional Requirements or Electives	<input type="checkbox"/> Art/Music/Theater <input type="checkbox"/> PE/Health & Wellness <input type="checkbox"/> World Languages <input type="checkbox"/> Speech/Communications	<input type="checkbox"/> Art/Music/Theater <input type="checkbox"/> PE/Health & Wellness <input type="checkbox"/> World Languages <input type="checkbox"/> Speech/Communications	<input type="checkbox"/> Art/Music/Theater <input type="checkbox"/> PE/Health & Wellness <input type="checkbox"/> World Languages <input type="checkbox"/> Speech/Communications	<input type="checkbox"/> Academic Transfer <input type="checkbox"/> Advanced Placement <input type="checkbox"/> Early Entry Program
■ Extended Learning				
School-Based	<input type="checkbox"/> Skills USA <input type="checkbox"/> DECA <input type="checkbox"/> OPPD/NPPD PowerDrive	<input type="checkbox"/> Career Days <input type="checkbox"/> FFA <input type="checkbox"/> Science Club	<input type="checkbox"/> Career Interviews <input type="checkbox"/> Internships <input type="checkbox"/> Senior Year Project	<input type="checkbox"/> Career Research <input type="checkbox"/> Job Shadowing <input type="checkbox"/> Service Learning Project
Community-Based	<input type="checkbox"/> Mentorships	<input type="checkbox"/> Learn the History of Community Buildings	<input type="checkbox"/> Part-Time Employment	<input type="checkbox"/> Volunteer

Endorsed by: Nebraska Department of Education
Nebraska Career Education



Health Science Career Cluster Plan of Study

This career cluster plan of study is a source of information to reference as you develop your own Personal Learning Plan. This plan lists *examples* of suggested coursework. Courses will vary according to the availability in each school district. Plans of study should meet high school graduation requirements as well as entrance requirements for a variety of postsecondary options within this career cluster.



The Health Science Career Cluster has five pathways that allow students to further explore and discover their favorite career specialties. Students can choose from several levels of education and training to pursue a career in their chosen pathway.

Pathways	Postsecondary Options
<input type="checkbox"/> Biotechnology Research & Development	● High School Diploma, On-the-Job Training
<input type="checkbox"/> Diagnostic Services	● Certificate/License
<input type="checkbox"/> Health Informatics	● Associate's Degree
<input type="checkbox"/> Support Services	● Bachelor's Degree
<input type="checkbox"/> Therapeutic Services	● Master's/Doctoral/Professional Degree
	● Military

Endorsed by: Nebraska Department of Education
Nebraska Career Education

■ Coursework				
Subject	7th -8th Grade	9th - 10th Grade	11th - 12th Grade	Postsecondary Credit Programs/Coursework
English	<input type="checkbox"/> English	<input type="checkbox"/> English I <input type="checkbox"/> English II	<input type="checkbox"/> English III <input type="checkbox"/> English IV	<input type="checkbox"/> Academic Transfer <input type="checkbox"/> Advanced Placement <input type="checkbox"/> Early Entry Program
Math	<input type="checkbox"/> Math <input type="checkbox"/> Pre Algebra <input type="checkbox"/> Algebra I	<input type="checkbox"/> Geometry <input type="checkbox"/> Algebra I <input type="checkbox"/> Algebra II	<input type="checkbox"/> Algebra II <input type="checkbox"/> Trigonometry <input type="checkbox"/> Pre-Calculus <input type="checkbox"/> Calculus	<input type="checkbox"/> Academic Transfer <input type="checkbox"/> Advanced Placement <input type="checkbox"/> Early Entry Program
Science	<input type="checkbox"/> Earth Science <input type="checkbox"/> Biology	<input type="checkbox"/> Biology I <input type="checkbox"/> Chemistry I	<input type="checkbox"/> Chemistry I <input type="checkbox"/> Physics <input type="checkbox"/> Anatomy/Physiology	<input type="checkbox"/> Academic Transfer <input type="checkbox"/> Advanced Placement <input type="checkbox"/> Early Entry Program
Social Studies	<input type="checkbox"/> American History <input type="checkbox"/> Geography <input type="checkbox"/> State History	<input type="checkbox"/> American History <input type="checkbox"/> Geography <input type="checkbox"/> World History	<input type="checkbox"/> American History <input type="checkbox"/> Economics <input type="checkbox"/> Government/Civics <input type="checkbox"/> Modern Problems <input type="checkbox"/> Psychology/Sociology	<input type="checkbox"/> Academic Transfer <input type="checkbox"/> Advanced Placement <input type="checkbox"/> Early Entry Program
Nebraska Career Education Classes	<input type="checkbox"/> Career Cluster Exploratory Class <input type="checkbox"/> Other Career Education Courses	<input type="checkbox"/> Health Sciences I & II <input type="checkbox"/> Health Related Occupations <input type="checkbox"/> Introduction to Sports Medicine <input type="checkbox"/> Certified Nursing Assistant <input type="checkbox"/> Sports Nutrition <input type="checkbox"/> Sports Injury/Athletic Training <input type="checkbox"/> Human Development <input type="checkbox"/> Family Health <input type="checkbox"/> Food Science/Nutrition <input type="checkbox"/> Technology	<input type="checkbox"/> Human Relations <input type="checkbox"/> Parenting/Child Development <input type="checkbox"/> Introduction to Dental Careers <input type="checkbox"/> Biotechnology Engineering <input type="checkbox"/> Business Law & Ethics <input type="checkbox"/> Consumer Economics <input type="checkbox"/> Computer Applications	<input type="checkbox"/> Child Development <input type="checkbox"/> Clinical Nutrition <input type="checkbox"/> Health Care Sciences I, II <input type="checkbox"/> Medical Terminology
Additional Requirements	<input type="checkbox"/> Art/Music/Theater <input type="checkbox"/> PE/Health & Wellness <input type="checkbox"/> World Languages <input type="checkbox"/> Speech/Communications	<input type="checkbox"/> Art/Music/Theater <input type="checkbox"/> PE/Health & Wellness <input type="checkbox"/> World Languages <input type="checkbox"/> Speech/Communications	<input type="checkbox"/> Art/Music/Theater <input type="checkbox"/> PE/Health & Wellness <input type="checkbox"/> World Languages <input type="checkbox"/> Speech/Communications	<input type="checkbox"/> Academic Transfer <input type="checkbox"/> Advanced Placement <input type="checkbox"/> Early Entry Program
■ Extended Learning				
School-Based	<input type="checkbox"/> Athletics <input type="checkbox"/> FCCLA <input type="checkbox"/> Science Club	<input type="checkbox"/> Career Days <input type="checkbox"/> HOSA <input type="checkbox"/> Senior Year Project	<input type="checkbox"/> Career Interviews <input type="checkbox"/> Internships <input type="checkbox"/> Service Learning Project	<input type="checkbox"/> Career Research <input type="checkbox"/> Job Shadowing <input type="checkbox"/> Wellness Club
Community-Based	<input type="checkbox"/> CPR/First Aid <input type="checkbox"/> NE Safety Patrol - Mock Disasters <input type="checkbox"/> Volunteer with Red Cross or at Hospital/Nursing Home	<input type="checkbox"/> EMT Certification <input type="checkbox"/> Health Fairs <input type="checkbox"/> Part-Time Employment	<input type="checkbox"/> Health Science Camps <input type="checkbox"/> Scrubby Bear Hand Washing Program	<input type="checkbox"/> Mentorships

Individual Career & Learning Plan Sample

Career Cluster
Pathway

District:
Date:

Career Cluster and Pathway Description: (see www.careerclusters.org)

Middle School		
6 th WIN Courseware Placement Test AKCIS Jr. Portfolio	7 th Career Clusters Interest Inventory AKCIS Jr. Portfolio	8 th WIN Courseware Placement Test AKCIS Jr. Portfolio + HS Course Planner Career Interest Inventory ACT EXPLORE

9 th through 12 th Grade							
9 th Grade		10 th Grade		11 th Grade		12 th Grade	
Assessments		Assessments		Assessments		Assessments	
SBA Other		SBA HSGQE Other		WorkKeys Other			
Courses		Courses		Courses		Courses	
Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2

WORK EXPERIENCE, ACTIVITIES, AWARDS, CERTIFICATIONS

Work Experience (includes Work-Based Learning, Service Learning, Job Shadows, paid employment, etc.)	Organizations & Activities (CTSOs, Student Government, Music, Athletics, Drama, etc.)	Awards and Certifications

POSTSECONDARY OPTIONS

One or Two-Year Post-secondary Programs	Adult Registered Apprenticeships	Four-Year College and University Programs	Occupational Certifications and Licenses	On The Job Training, Skill Training Certificates, etc.
▪	▪	▪	▪	▪

Suggested Elements for an Individual Career & Learning Plan

Middle school	High School
<ul style="list-style-type: none"> ▪ Personal Information ▪ Activities, Clubs, other Groups ▪ Personal interests and skills ▪ Achievements and awards ▪ Favorite and least favorite subjects ▪ Occupations that sound interesting ▪ Work or volunteer experience ▪ Next steps course plan ▪ Goals – short and long-term ▪ Grade-specific assessments (state-requirements are shown in red boldface) <ul style="list-style-type: none"> ▪ 6th Grade: <ul style="list-style-type: none"> ▪ Standards Based Assessments (SBA) - Reading, Writing, Math ▪ WIN Courseware Placement Tests in Reading for Information, Applied Mathematics, and Locating Information ▪ Career Clusters Interest Inventory ▪ AKCIS Jr. Interest and Skills Inventories ▪ Other career and/or academic inventory/assessments ▪ 7th Grade: <ul style="list-style-type: none"> ▪ Standards Based Assessments (SBA) - Reading, Writing, Math ▪ TerraNova Norm Referenced Test ▪ Career Clusters Interest Inventory ▪ AKCIS Jr. Interest and Skills Inventories ▪ Other career and/or academic inventory/assessments ▪ 8th Grade: <ul style="list-style-type: none"> ▪ Standards Based Assessments (SBA) - Reading, Writing, Math, and Science ▪ WIN Courseware Placement Tests in Reading for Information, Applied Mathematics, and Locating Information ▪ ACT Explore Test ▪ Career Clusters Interest Inventory ▪ AKCIS Jr. Interest and Skills Inventories ▪ Other career and/or academic inventory/assessments 	<ul style="list-style-type: none"> ▪ Personal Information ▪ Activities, Clubs, other Groups ▪ Interests and skills ▪ Achievements and awards ▪ Work and volunteer experience ▪ Certifications or credentials earned ▪ Tech Prep and/or dual credit courses planned and completed ▪ Next steps course plan for each year ▪ Career and Technical Education Program of Study (CTEPS) ▪ Update personal interests and skills inventories ▪ Continued career research <ul style="list-style-type: none"> ▪ Career clusters and pathways ▪ Education and training requirements ▪ Education/training programs availability, cost, entrance requirements, etc. ▪ Labor market information ▪ Develop résumé and job application materials ▪ Financial aid research and application ▪ Complete paperwork for post-secondary options (application or enrollment forms, financial aid forms, transcript requests, etc.) ▪ Goals – short and long-term ▪ Grade-specific assessments (state-requirements are shown in red boldface) <ul style="list-style-type: none"> ▪ 9th Grade <ul style="list-style-type: none"> ▪ Standards Based Assessments (SBA) - Reading, Writing, Math ▪ AKCIS Inventories and Assessments ▪ Other career and/or academic inventory/assessments ▪ 10th Grade <ul style="list-style-type: none"> ▪ Standards Based Assessments (SBA) – Science ▪ HSGQE/SBA ▪ ACT Plan Test (pre-ACT test) ▪ PSAT (pre-SAT test) ▪ ASVAB Career Exploration Assessment ▪ AKCIS Inventories and Assessments ▪ Other career and/or academic inventory/assessments ▪ 11th Grade <ul style="list-style-type: none"> ▪ ACT WorkKeys® Tests in Reading for Information, Applied Mathematics, and Locating Information ▪ SAT and/or ACT ▪ Accuplacer/Compass ▪ AKCIS Inventories and Assessments ▪ Other career and/or academic inventory/assessments ▪ 12th Grade <ul style="list-style-type: none"> ▪ AKCIS Inventories and Assessments ▪ SAT and/or ACT ▪ Accuplacer/Compass ▪ Other career and/or academic inventory/assessments

Career Cluster Name	Description	Career Cluster Name	Description
	The production, processing, marketing, distribution, financing, and development of agricultural commodities and resources including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.		Hospitality & Tourism encompasses the management, marketing and operations of restaurants and other foodservices, lodging, attractions, recreation events and travel related services.
	Careers in designing, planning, managing, building and maintaining the built environment.		Preparing individuals for employment in career pathways that relate to families and human needs.
	Designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services.		Building Linkages in IT Occupations Framework: For Entry Level, Technical, and Professional Careers Related to the Design, Development, Support and Management of Hardware, Software, Multimedia, and Systems Integration Services.
	Business, Management and Administration careers encompass planning, organizing, directing and evaluating business functions essential to efficient and productive business operations. Business Management and Administration career opportunities are available in every sector of the economy.		Planning, managing, and providing legal, public safety, protective services and homeland security, including professional and technical support services.
	Planning, managing and providing education and training services, and related learning support services.		Planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing/process engineering
	Planning, services for financial and investment planning, banking, insurance, and business financial management.		Planning, managing, and performing marketing activities to reach organizational objectives.
	Executing governmental functions to include Governance; National Security; Foreign Service; Planning; Revenue and Taxation; Regulation; and Management and Administration at the local, state, and federal levels.		Planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and testing services, and research and development services.
	Planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.		Planning, management, and movement of people, materials, and goods by road, pipeline, air, rail and water and related professional and technical support services such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance.

Sixteen Career Clusters and Their Pathways

A Career Cluster is a grouping of occupations and broad industries based on commonalities.

<p>Agriculture, Food & Natural Resources Food Products and Processing Systems Plant Systems Animal Systems Power, Structural & Technical Systems Natural Resources Systems Environmental Service Systems Agribusiness Systems</p> <p>Architecture & Construction Design/Pre-Construction Construction Maintenance/Operations</p> <p>Arts, Audio/Video Technology & Communications Audio and Video Technology and Film Printing Technology Visual Arts Performing Arts Journalism and Broadcasting Telecommunications</p> <p>Business, Management & Administration Management Business Financial Management & Accounting Human Resources Business Analysis Marketing Administrative & Information Support</p>	<p>Education & Training Administration and Administrative Support Professional Support Services Teaching/Training</p> <p>Finance Financial & Investment Planning Business Financial Management Banking & Related Services Insurance Services</p> <p>Government & Public Administration Governance National Security Foreign Service Planning Revenue and Taxation Regulation Public Management and Administration</p> <p>Health Science Therapeutic Services Diagnostic Services Health Informatics Support Services Biotechnology Research and Development</p> <p>Hospitality & Tourism Restaurants and Food/Beverage Services Lodging Travel & Tourism Recreation, Amusements & Attractions</p>	<p>Human Services Early Childhood Development & Services Counseling & Mental Health Services Family & Community Services Personal Care Services Consumer Services</p> <p>Information Technology Network Systems Information Support and Services Interactive Media Programming and Software Development</p> <p>Law, Public Safety, Corrections & Security Correction Services Emergency and Fire Management Services Security & Protective Services Law Enforcement Services Legal Services</p> <p>Manufacturing Production Manufacturing Production Process Development Maintenance, Installation & Repair Quality Assurance Logistics & Inventory Control Health, Safety and Environmental Assurance</p>	<p>Marketing, Sales & Service Management and Entrepreneurship Professional Sales and Marketing Buying and Merchandising Marketing Communications and Promotion Marketing Information Management and Research Distribution and Logistics E-Marketing</p> <p>Science, Technology, Engineering & Mathematics Engineering and Technology Science and Math</p> <p>Transportation, Distribution & Logistics Transportation Operations Logistics Planning and Management Services Warehousing and Distribution Center Operations Facility and Mobile Equipment Maintenance Transportation Systems/Infrastructure Planning, Management and Regulation Health, Safety and Environmental Management Sales and Service</p>
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Career Cluster Health Sciences

District Ketchikan High School

Pathway (& Major) Therapeutic Services, Healthcare Provider

Name:

Date:

January 2009

Career Cluster or Pathway Description: : The Health Sciences career cluster prepares learners to enter an industry which includes planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services and biotechnology research and development. Jobs in this cluster have been identified as high demand, high skill and high wage by the Alaska Dept. of Labor.

Middle School Exploratory Options (OPTIONAL)

6 th – WIN Placement Test	7 th -	8 th – WIN Placement Test
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RECOMMENDED SECONDARY CAREER DEVELOPMENT SCHEDULE (CTE Classes are Boldface font)

9 th Grade		10 th Grade		11 th Grade		12 th Grade	
Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2
		SBA/HSGQE, AKCIS Portfolio		WorkKeys, PSAT, SAT, ACT, AKCIS Portfolio		SAT, ACT, AKCIS Portfolio	
English 1	English 1	English 2	English 2	English 3	English 3	English 4 <i>or</i>	ENGL S111 Methods of Writt Comm (3 cr)
Algebra 1 or Geometry	Algebra 1 or Geometry	Geometry or Algebra 2	Geometry or Algebra 2	Algebra 2, Trigonometry or Statistics	Algebra 2, Trigonometry or Statistics	Trigonometry, Calculus, Statistics, <i>or</i>	MATH S105 Interm Algebra (4 cr)
Biophysical	Biophysical	Biology	Biology	Physics or Chemistry	Physics or Chemistry	Chem 1, 2 or AP; Biol, advanced, or AP	Chem 1, 2 or AP; Biol, advanced, or AP
Alaska Cultures	Alaska Cultures	World History or US History	World History or US History	US History or Government	US History or Government	Elective	Elective
PE or Computer Applications	PE or Computer Applications	PE or Computer Applications	PE or Computer Applications	Elective	Elective	HS S135 Medical Terminology Pt. 1	HS S135 Medical Terminology Pt. 2 (3 cr)
Health	Health	Career Planning	Career Planning			HS S101 Intro. to the Health Sciences Pt 1	HS S101 Intro. to the Health Sciences Pt 2 (3 cr)
Technical Assessment(s)		Technical Assessment(s)		Technical Assessment(s)		Technical Assessment(s)	

OPTIONAL

Work-Based Learning Opportunities	Career-Technical Student Organizations	Certifications
▪	•	•

POSTSECONDARY OPTIONS

One or Two-Year Post-secondary Programs	Adult Registered Apprenticeships	Four-Year College and University Programs	Occupational Certifications & Licenses	On The Job Training, Skill Training Certificates, etc.
▪ AAS Health Sciences	▪	▪	▪ Certified Nurse’s Assistant (CNA)	▪ Certificate in Pre-Nursing Qualifications (CPNQ)

Career Cluster Health Sciences
 Pathway (& Major) Therapeutic Services, Healthcare Provider

District Ketchikan High School
 Name:
 Date: January 2009

Option #1:
 POSTSECONDARY PARTNER: UAS
 POSTSECONDARY PROGRAM: Community Wellness Advocate (CWA) Certificate

Specialty Track- Nutrition		Specialty Track- Injury Prevention		Year 14		Year 15	
				Semester 1	Semester 2	Semester 1	Semester 2
ENGL S111 Methods of Written Communication (3 cr)	COMM S237 Interpersonal Communication (3 cr)	ENGL S111 Methods of Written Communication (3 cr)	COMM S237 Interpersonal Communication (3 cr)				
CIOS 105 Computer Literacy (3 cr)	HS S126 Health Promotion through Behavior Change (4 cr)	CIOS 105 Computer Literacy (3 cr)	HS S126 Health Promotion through Behavior Change (4 cr)				
HS S125 Public Health and Health Promotion (4 cr)	HS S202 Community Health Promotion (4 cr)	HS S125 Public Health and Health Promotion (4 cr)	HS S202 Community Health Promotion (4 cr)				
HS S127 Nutrition and the Life Cycle (3 cr)	HS S204 Introduction to Nutrition Education (3 cr)	HS S130 Public Health and Injury Prevention (3 cr)	HS S132 Managing Injury Prevention Programs (4 cr)				
HS S128 Food Safety and Preservation (1 cr)	HS S294 Nutrition education Practicum (3 cr)	HS S131 Role of Data in Injury Prevention (3 cr)					
	30 credits		30 credits				

Outcome: Community Wellness Advocate (CWA) Certificate, UAS Sitka campus

Total Credits: 30

Possible completed credits from high school Health Sciences career track: **3**
 (Classes possible to complete at high school level are **BOLDFACE**)

Career Cluster Health Sciences
 Pathway (& Major) Therapeutic Services, Healthcare Provider

District Ketchikan High School
 Name:
 Date: January 2009

Option #2:
 POSTSECONDARY PARTNER: UAS
 POSTSECONDARY PROGRAM: CNA/Certificate of Pre-Nursing qualifications (CPNQ)

Year 13		Year 14		Year 15		Year 16	
Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2
ENGL S111 Methods of Written Communication (3 cr)	ENGL S211 Technical Report Writing (3 cr)	COMM S237 Interpersonal Communication (3 cr)	BIOL S240 Introductory Microbiology (4 cr)				
MATH S105 Intermediate Algebra (4 cr)	STAT S107 Introductory Statistics (3 cr)	CHEM S103 Introduction to General Chemistry (4 cr)	BIOL S103 Biology and Society (3 cr)				
BIOL S111 Human Anatomy and Physiology-I (4 cr)	BIOL S112 Human Anatomy and Physiology-II (4 cr)	HS S105 Certified Nurse's Aide Training (9 cr)	PSY S250 Lifespan Development (3 cr)				
HS S107 Planning Your Career in Healthcare (1 cr)	PSY S101 Introduction to Psychology (3 cr)		HS S203 Science of Nutrition (3 cr)				
8-12 credits	10-13 credits	13-16 credits	13 Credits				

Outcome: Certificate in Pre-Nursing Qualifications (CPNQ), UAS Juneau

Total Credits: 54

Possible completed credits from high school Health Sciences career track: **7**
*(Classes possible to complete at high school level are **BOLDFACE**)*

The student will exit this program with a **CNA certification**, allowing them to work in a high demand, higher wage (above minimum wage) position, as well as gain patient contact time, while they continue their education to complete the Nursing program.

Career Cluster **Health Sciences**
 Pathway (& Major) **Therapeutic Services, Healthcare Provider**

District **Ketchikan High School**
 Name:
 Date: **January 2009**

Option #3:

POSTSECONDARY PARTNER: UAS

POSTSECONDARY PROGRAM: AAS in Health Sciences

Year 13		Year 14		Year 15		Year 16	
Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2
ENGL S111 Methods of Written Communication (3 cr)	ENGL S211 Technical Report Writing (3 cr)	COMM S235 Small Group Communication & Team Building (3 cr)	HS S202 Community Health Promotion (4 cr)				
MATH S105 Intermediate Algebra (4 cr)	CHEM S103 Introduction to General Chemistry (4 cr)	CHEM S104 A survey of Organic and Biochemistry (4 cr)	HS S270 Pathology (3 cr)				
BIOL S111 Human Anatomy and Physiology-I (4 cr)	BIOL S112 Human Anatomy and Physiology-II (4 cr)	BIOL S240 Introductory Microbiology (4 cr)	PSY S250 Lifespan Development (3 cr)				
HS S101 Introduction to the Health Sciences (3 cr)	PSY S101 Introduction to Psychology (3 cr)	HS F220 Ethics, Values and Social Work Practice (3 cr)	HS 291 Health Sciences Internship (3 cr)				
HS S107 Planning Your Career in Healthcare (1 cr)	HS S135 Medical Terminology (3 cr)	HS S203 Science of Nutrition (3 cr)					
	HS S102 Fundamentals of CPR and First Aid (1 cr)						
11-15 credits	12-18 credits	14-17 credits	13 Credits				

Outcome: AAS Health Services, UAS Juneau

Total Credits: 63

Possible completed credits from high school Health Sciences career track: **13**

(Classes possible to complete at high school level are **BOLDFACE**)

(Developed by: Don Levine)

Career Cluster or Pathway Description: (see www.careerclusters.org)
Planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing/process engineering.

Middle School Exploratory Options (OPTIONAL)

6 th – WIN Placement Test	7 th –	8 th – WIN Placement Test
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RECOMMENDED SECONDARY CAREER DEVELOPMENT SCHEDULE (CTE Classes are Boldface font)

9 th Grade		10 th Grade		11 th Grade		12 th Grade	
Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2	Semester 1	Semester 2
Career Clusters Interest Inventory, AKCIS Portfolio		SBA/HSGQE, Career Interest Inventory, AKCIS Portfolio		WorkKeys, PSAT, SAT, ACT, Accuplacer/Compass, AKCIS Portfolio		SAT, ACT, Accuplacer/Compass, AKCIS Portfolio	
Freshmen English	Freshmen English	Sophomore English	Sophomore English	American Literature	American Literature	Senior English	Senior English
Algebra I	Algebra I	Geometry	Geometry	Algebra II	Algebra II	Trig	Trig
Physical Science	Physical Science	Biology	Biology	Marine Science	Marine Science	Physics	Physics
Alaska History	Alaska History	World History	World History	US History	US History		
Health	Intro to Art	PE I	PE II	Music		Career Exploration I	Career Exploration II
				Welding I	Welding II	Welding III	Welding IV
Technical Assessment(s)		Technical Assessment(s)		Technical Assessment(s): AWS		Technical Assessment(s): AWS	

OPTIONAL

Work-Based Learning Opportunities	Career-Technical Student Organizations	Certifications
▪	▪ SkillsUSA	▪ AWS

POSTSECONDARY OPTIONS

One or Two-Year Post-secondary Programs	Adult Registered Apprenticeships	Four-Year College and University Programs	Occupational Certifications & Licenses	On The Job Training, Skill Training Certificates, etc.
▪ Welding or Marine Mechanic	▪	▪	▪ Entry Level or Advanced Welder ▪ Marine Mechanic	▪

Career Cluster ; Manufacturing
 Pathway (& Major) Production Pathway or Maintenance, Installation &
 Repair Pathway (Welding Major)

POSTSECONDARY OPTION 1:

POSTSECONDARY PARTNER: UAS Ketchikan
 POSTSECONDARY PROGRAM: Diesel/Marine Emphasis
 Resulting Certificate, Credential or Degree: Occupational Endorsement for
 Marine Mechanic

Year 13	
Semester 1	Semester 2
WELD S120 Basic Welding I (3 cr)	DESL S180 AC Power Generation (3 cr)
DESL S110 Diesel Engines (6 cr)	DESL S261 Marine Auxiliary Systems (3 cr)
DESL S125 Hydraulics (3 cr)	DESL S262 Marine Auxiliary Systems Lab (2 cr)
DESL S130 Refrigeration & Air Conditioning (2 cr)	DESL 263 Marine Transmissions (3 cr)
DESL S171 Heavy Duty Electrical Systems (3 cr)	
14 credits	14 credits

Outcome: Occupational Endorsement, Marine Mechanic

Total Credits: 28 credits

Possible completed credits from high school career track: **3**
 (Classes possible to complete at high school level are **BOLDFACE**)

District Name: Rural Southeast District

Date: July 2009

POSTSECONDARY OPTION 2:

POSTSECONDARY PARTNER: UAS Ketchikan
 POSTSECONDARY PROGRAM: Welding
 Resulting Certificate, Credential or Degree: Occupational Endorsement for
 Entry Level/Advanced Level Welder

Year 13		Year 14	
Semester 1	Semester 2	Semester 1	Semester 2
WELD S160 Welding Orientations Lab (3 cr)		WELD S260 Introduction to Advanced Welding Techniques (3 cr)	
WELD S161 Welding Preparations, Quality, and Oxyfuel Cutting (3 cr)		WELD S261 Gas Metal Arc Welding 3 (3 cr)	
WELD S162 Shielded Metal Arc Welding Basics (3 cr)		WELD S262 Flux Cored Arc Welding (3 cr)	
WELD S163 Shielded Metal Arc Welding Groove Welds (3 cr)		WELD S263 Gas Tungsten Arc Welding (3 cr)	
WELD S164 Shielded Metal Arc Welding Open V- Groove (3 cr)		(elective) WELD S264 Gas Tungsten Arc Welding Aluminum (3 cr)	
WELD S165 Shielded Metal Arc Welding Open- Root Pipe (3 cr)		(elective) WELD S265 Shielded Metal Arc Welding Stainless Steel (3 cr)	
18 credits		Minimum 12 credits	
AWS Entry Level Welder		AWS Advanced Welder	

**Outcome: Occupational Endorsement, Entry Level and Advanced
 Level Welder**

Total Credits: 18-36



Planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.

Sample Career Specialties/Occupations

<p>Acupuncturist Anesthesiologist/Assistant Anesthesia Technologist/Technician Art/Music/Dance Therapist(s) Athletic Trainer Audiologist Certified Nursing Assistant Chiropractor Chiropractic Assistant Dental Assistant/Hygienist Dental Lab Technician Dietitian/Nutritionist Dosimetrist EMT/Paramedic Endodontist Exercise Physiologist Home Health Aide Kinesiotherapist Licensed Practical Nurse Massage Therapist Medical Assistant Mental Health Counselor Naturopathic Doctor Nurse Anesthetist Nurse Midwife Nurse Practitioner Occupational Therapist/Assistant Oral Surgeon Orientation/Mobility Specialist Orthodontist Orthoptist Orthotist/Prosthetist/Technician Pedorthist Perfusionist Pharmacist Pharmacy Technician Physical Therapist/Assistant Physician (MD/DO) Physician Assistant Podiatrist Psychologist Psychiatrist Radiation Therapist Recreation Therapist Registered Nurse Rehabilitation Counselor Respiratory Therapist Speech-Language Therapist Surgical Technician Veterinarian Veterinarian Assistant/Technician Vision Rehabilitation Therapist Wellness Coach</p>	<p>Audiologist Blood Bank Technology Specialist Cardiovascular Technologist Clinical Lab Technician Clinical Laboratory/Technologist Computer Tomography (CT) Technologist Cytogenetic Technologist Cytotechnologist Dentist Diagnostic Medical Sonographer Electrocardiographic (ECG) Technician Electroneurodiagnostic Technologist Electronic Diagnostic (EEG) Technologist Exercise Physiologist Geneticist Geriatrician Histotechnician Histotechnologist Magnetic Resonance Technologist Mammographer Medical Technologist/ Clinical Laboratory Scientist Nuclear Medicine Technologist Optician Ophthalmologist Ophthalmic Assistant/Technologist Optometrist Pathologist Pathologists' Assistant Phlebotomist Polysomnographic Technologist Positron Emission Tomography (PET) Technologist Radiologic Technologist Radiologist Speech-Language Pathologist</p>	<p>Admitting Clerk Applied Researcher Compliance Technician Clinical Account Manager Clinical Account Technician Clinical Data Specialist Community Services Specialists Data Quality Manager Epidemiologist Ethicist Health Educator Health Information Mgmt. Administrator Health Information Mgmt. Technician Healthcare Access Manager Healthcare Administrator Healthcare Finance Informatician Information Privacy Officer Managed Care Contract Analyst Medical Coder Medical Historian Medical Illustrator Medical Information Technologist Medical Librarian Medical Transcriptionist Patient Account Manager Patient Account Technician Patient Advocate Patient Information Coordinator Project Manager Public Health Educator Quality Management Specialist Quality Data Analyst Research and Decision Support Specialist Reimbursement Specialist Risk Manager Unit Coordinator Utilization Manager Utilization Review Manager</p>	<p>Animal Behaviorist Biomedical/Clinical Engineer Biomedical/Clinical Technician Clinical Simulator Technician Central Service Manager Central Service Technician Community Health Worker Dietary Manager Dietetic Technician Environmental Health Advocate Environmental Health Practitioner Environmental Services/ Specialist Facilities Manager Food Safety Specialist Health Advocate Hospital Maintenance Engineer Industrial Hygienist Interpreter Marital, Couple, Family Counselor/Therapist Materials Manager Medical Health Counselor Mortician/ Funeral Director Nurse Educator Occupational Health Nurse Occupational Health & Safety Expert Social Worker Transport Technician</p>	<p>Biochemist Bioinformatics Scientist Biomedical Chemist Biomedical Manufacturing Technician Biostatistician Cancer Registrar Cell Biologist Clinical Data Management Specialist Clinical Pharmacologist Clinical Trials Monitor Clinical Trials Research Coordinator Crime Scene Investigator Diagnostic Molecular Scientist Forensic Biologist Forensic Chemist Forensic Odontologist Forensic Pathologist Genetic Counselor Geneticist-Lab Assistant Lab Technician Medical Editor/Writer Microbiologist Molecular Biologist Nurse Researcher Packaging Technician Patent Lawyer Pharmaceutical/Clinical Project Manager Pharmaceutical Sales Representative Pharmaceutical Scientist Pharmacokineticist Pharmacologist Product Safety Scientist Process Development Scientist Processing Technician Quality Assurance Technician Quality Control Technician Regulatory Affairs Specialist Research Assistant Research Scientist Toxicologist</p>	
Path-ways	Therapeutic Services	Diagnostics Services	Health Informatics	Support Services	Biotechnology Research and Development
Cluster K & S	<p align="center">Cluster Knowledge and Skills</p> <p align="center">◆ Academic Foundation ◆ Communications ◆ Systems ◆ Employability Skills ◆ Legal Responsibilities ◆ Ethics ◆ Safety Practices ◆ Teamwork ◆ Health Maintenance Practices ◆ Technical Skills ◆ Information Technology Applications</p> <p align="center">Revised July 2009</p>				



Name _____
 Learner ID _____
 School/College/University _____

SAMPLE

Health Science

Career Cluster Plan of Study for ► Learners ► Parents ► Counselors ► Teachers/Faculty

This Career Cluster Plan of Study (based on the Health Science Career Cluster) can serve as a guide, along with other career planning materials, as learners continue on a career path. Courses listed within this plan are only recommended coursework and should be individualized to meet each learner's educational and career goals. *This Plan of Study, used for learners at an educational institution, should be customized with course titles and appropriate high school graduation requirements as well as college entrance requirements.

EDUCATION LEVELS	GRADE	English/ Language Arts	Math	Science	Social Studies/ Sciences	Other Required Courses Other Electives Recommended Electives Learner Activities	*Career and Technical Courses and/ or Degree Major Courses for Health Science	SAMPLE Occupations Relating to This Career Cluster
Interest Inventory Administered and Plan of Study Initiated for all Learner:								
SECONDARY	9	English/ Language Arts I	Algebra I	<i>Dependent on chosen pathway</i>	State History Civics	All plans of study should meet local and state high school graduation requirements and college entrance requirements. Certain local student organization activities are also important including public speaking, record keeping and work-based experiences. A foreign language is recommended.	** <i>Health Science I: Introduction to Health Science</i> ** <i>Information Technology Applications</i>	Occupations Requiring Less than Baccalaureate Degree ► Dental Assistant/Hygienist ► EMT/Paramedic ► Health Information Coder ► Home Health Aide ► Lab Technician ► Phlebotomist ► Radiographer ► Registered Nurse Occupations Requiring Baccalaureate Degree ► Athletic Trainer ► Biochemist ► Biostatistician ► Geneticist ► Industrial Hygienist ► Nutritionist ► Occupational Therapist ► Physician (MD/DO) ► Physician's Assistant ► Psychologist ► Radiologist ► Research Scientist ► Speech/Language Pathologist ► Toxicologist ► Veterinarian
	10	English/ Language Arts II	<i>Dependent on chosen pathway</i>	<i>Dependent on chosen pathway</i>	U.S. History		** <i>Health Science II: Health, Safety and Ethics in the Health Environment</i>	
	11	English/ Language Arts III	<i>Dependent on chosen pathway</i>	<i>Dependent on chosen pathway</i>	World History Sociology		** <i>Health Science III: Employment in Health Occupations</i>	
	College Placement Assessments-Academic/Career Advisement Provided							
	12	English/ Language Arts IV	<i>Dependent on chosen pathway</i>	<i>Dependent on chosen pathway</i>	Psychology Economics		Continue courses pertinent to the pathway selected.	
Articulation/Dual Credit Transcribed-Postsecondary courses may be taken/moved to the secondary level for articulation/dual credit purposes.								
POSTSECONDARY	Year 13	English Composition	<i>Dependent on chosen pathway</i>	<i>Dependent on chosen pathway</i>	American Govt. Psychology	All plans of study need to meet learners' career goals with regard to required degrees, licenses, certifications or journey worker status. Certain local student organization activities may also be important to include. Work-based learning is an integral part of this Career Cluster.	Continue courses pertinent to the pathway selected.	
	Year 14	Speech/ Oral Communication Technical Writing	<i>Dependent on chosen pathway</i>	<i>Dependent on chosen pathway</i>	American History Sociology			
	Year 15	Continue courses in the area of specialization.						
	Year 16							

** See course descriptions on page 2.



SAMPLE

SAMPLE

Health Science Course Descriptions

(Course content may be taught as concepts within other courses.)

#1

Health Science I: Introduction to Health Science. Instructional content will focus on healthcare communications, leadership and teamwork, and reinforce, expand and enhance biology content specific to human structure and function. Instruction will use interest inventories and observations to introduce students to careers in healthcare and will incorporate project- and problem-based healthcare practices and procedures to demonstrate the criticality of these knowledge and skills. This course will build an understanding of the academic, communication, and technical skills in all aspects of the industry. Students will learn how healthcare workers fit within the overall health care environment and will identify how key systems affect quality of care and other services they perform.

#2

Information Technology Applications. This course is designed for those students who have not mastered knowledge and skills related to technology applications prior to entry into high school. Students will use technology tools to manage personal schedules and contact information, create memos and notes, prepare simple reports and other business communications, manage computer operations and file storage, and use electronic mail, Internet applications and GIS to communicate, search for and access information. Students will develop skills related word processing, database management, and spreadsheet applications.

#3

Health Science II: Health, Safety and Ethics in the Health Environment Instructional content will focus on healthcare safety, health maintenance practices and environmental safety processes and procedures, ethical and legal responsibilities as well as reinforce, expand and enhance biology content specific to diseases and disorders. Instruction will incorporate project- and problem-based healthcare practices and procedures to demonstrate the criticality of these knowledge and skills. Students will develop basic technical skills required for all health career specialties including understanding occupational safety techniques and obtaining their CPR and First Aid certifications.

#4

Health Science III: Employment in Health Occupations. Instructional content will focus on healthcare information technology applications, employability and career development, and technical skill preparation. These knowledge and skills will provide guidance for career selection and application for both entry-level employment and post-secondary preparation. Instruction will incorporate project- and problem-based healthcare practices and procedures to demonstrate the criticality of these knowledge and skills.

SAMPLE

Health Science: Therapeutic Services

Career Pathway Plan of Study for ▶ Learners ▶ Parents ▶ Counselors ▶ Teachers/Faculty

This Career Pathway Plan of Study (based on the Therapeutic Services Pathway of the Health Science Career Cluster) can serve as a guide, along with other career planning materials, as learners continue on a career path. Courses listed within this plan are only recommended coursework and should be individualized to meet each learner's educational and career goals. *This Plan of Study, used for learners at an educational institution, should be customized with course titles and appropriate high school graduation requirements as well as college entrance requirements.

EDUCATION LEVELS	GRADE	English/ Language Arts	Math	Science	Social Studies/ Sciences	Other Required Courses Other Electives Recommended Electives Learner Activities	*Career and Technical Courses and/or Degree Major Courses for Therapeutic Services Pathway	SAMPLE Occupations Relating to This Pathway
<i>Interest Inventory Administered and Plan of Study Initiated for all Learners</i>								
SECONDARY	9	English/ Language Arts I	Algebra I	Biology	State History Civics	All plans of study should meet local and state high school graduation requirements and college entrance requirements. Certain local student organization activities are also important including public speaking, record keeping and work-based experiences. A foreign language is recommended.	<ul style="list-style-type: none"> Health Science I: Introduction to Health Science Information Technology Applications 	Occupations Requiring Less than Baccalaureate Degree <ul style="list-style-type: none"> ▶ Anesthesiologist Assistant ▶ Certified Nursing Assistant ▶ Clinical Medical Assistant ▶ Data Entry Coordinator ▶ Dental Assistant/Hygienist ▶ Dental Lab Technician ▶ EMT/Paramedic ▶ Home Health Aide ▶ Licensed Practical Nurse ▶ Massage Therapist ▶ Orthotist/Prosthetist ▶ Pharmacist/Pharmacy Technician ▶ Physical Therapist/Assistant ▶ Radiologic Technician ▶ Registered Nurse ▶ Respiratory Therapist ▶ Surgical Technician
	10	English/ Language Arts II	Geometry	Chemistry	U.S. History		<ul style="list-style-type: none"> Health Science II: Health, Safety and Ethics in the Health Environment 	
	11	English/ Language Arts III	Algebra II	Physics or other science course	World History Sociology		<ul style="list-style-type: none"> Health Science III: Employment in Health Occupations 	
	<i>College Placement Assessments-Academic/Career Advisement Provided</i>							
	12	English/ Language Arts IV	Pre-Calculus or Calculus or Statistics	Anatomy and Physiology	Psychology Economics	<ul style="list-style-type: none"> Health Science IV: Introduction to Therapeutic Services 		
<i>Articulation/Dual Credit Transcribed-Postsecondary courses may be taken/moved to the secondary level for articulation/dual credit purposes.</i>								
POSTSECONDARY	Year 13	English Composition	Algebra	Chemistry Biological Science	American Government Psychology	All plans of study need to meet learners' career goals with regard to required degrees, licenses, certifications or journey worker status. Certain local student organization activities may also be important to include. Work-based learning is an integral part of this pathway.	<ul style="list-style-type: none"> Health Science V: Therapeutic Services Preparation 	Occupations Requiring Baccalaureate Degree <ul style="list-style-type: none"> ▶ Athletic Trainer ▶ Audiologist ▶ Chiropractor ▶ Dentist ▶ Dietician ▶ Exercise Physiologist ▶ Nurse Practitioner ▶ Occupational Therapist ▶ Optometrist ▶ Physician (MD/DO) ▶ Physician's Assistant ▶ Psychologist ▶ Recreation Therapist ▶ Social Worker ▶ Speech Language Pathologist ▶ Veterinarian
	Year 14	Speech/ Oral Communication Technical Writing	Statistics or Calculus	Microbiology	American History Sociology		<ul style="list-style-type: none"> Continue Courses in the Area of Specialization 	
	Year 15	Continue courses in the area of specialization.						
	Year 16						<ul style="list-style-type: none"> Complete Therapeutic Services Major (4-Year Degree Program) 	

Creating Your Institution's Own Instructional Plan of Study

With a team of partners (secondary/postsecondary teachers and faculty, counselors, business/industry representatives, instructional leaders, and administrators), use the following steps to develop your own scope and sequence of career and technical courses as well as degree major courses for your institution's plan of study.

- 1** Crosswalk the Cluster Foundation Knowledge and Skills (available at <http://www.careerclusters.org/goto.cfm?id=89>) to the content of your existing secondary and postsecondary programs/courses.
- 2** Crosswalk the Pathway Knowledge and Skills (available at <http://www.careerclusters.org/goto.cfm?id=37>) to the content of your existing secondary/postsecondary programs and courses.
- 3** Based on the crosswalks in steps 1 and 2, determine which existing programs/courses would adequately align to (cover) the knowledge and skills. These programs/courses would be revised to tighten up any alignment weaknesses and would become a part of a sequence of courses to address this pathway.
- 4** Based on the crosswalks in steps 1 and 2, determine what new courses need to be added to address any alignment weaknesses.
- 5** Sequence the **content** and **learner outcomes** of the existing programs/courses identified in step 3 and new courses identified in step 4 into a course sequence leading to preparation for all occupations within this pathway. (See list of occupations on page 1 of this document.)
- 6** The goal of this process would be a series of courses and their descriptions. The names of these courses would be inserted into the *Career and Technical Courses* column on the Plan of Study on page 1 of this document.
- 7** Below is a **sample result** of steps 1-6, and these course titles are inserted into the Plan of Study on page 1 of this document.
- 8** Crosswalk your state academic standards and applicable national standards (e.g., for mathematics, science, history, language arts, etc.) to the sequence of courses formulated in step 6.

Health Science: Therapeutic Services

SAMPLE Sequence of Courses for ► Instructional Leaders ► Administrators ► Counselors ► Teachers/Faculty

SAMPLE

Below are suggested courses that could result from steps 1-6 above. However, as an educational institution, course titles, descriptions and the sequence will be your own. This is a good model of courses for you to use as an example and to help you jump-start your process. Course content may be taught as concepts within other courses, or as modules or units of instruction.

These suggested instructional content sequences are organized as cumulative knowledge and skills specific for health science programs of study. Health Sciences I-III incorporate the basic knowledge and skills necessary for all healthcare occupations. Health Science IV is specific to a selected health science career pathway. The instructional content may be organized into courses consistent with the high school configuration. Health Science V includes instructional content necessary for career entry and is most often offered at a college or university level.

The following courses are based on the Cluster Foundation Knowledge and Skills found at <http://www.careerclusters.org/goto.cfm?id=89>. These knowledge and skills are reinforced and enhanced through participation in Health Occupations Students of America and work-based learning opportunities that are age and grade appropriate.

#1

Health Science I: Introduction to Health Science: Instructional content will focus on healthcare communications, leadership and teamwork, and will reinforce, expand and enhance biology content specific to human structure and function. Instruction will use interest inventories and observations to introduce students to careers in healthcare and will incorporate project- and problem-based healthcare practices and procedures to demonstrate the criticality of these knowledge and skills. This course will build an understanding of the academic, communication and technical skills in all aspects of the industry. Students will learn how healthcare workers fit within the overall healthcare environment and will identify how key systems affect quality of care and other services they perform.

#2

Information Technology Applications: This course is designed for those students who have not mastered knowledge and skills related to technology applications prior to entry into high school. Students will use technology tools to manage personal schedules and contact information, create memos and notes, prepare simple reports and other business communications, manage computer operations and file storage, and use electronic mail, Internet applications and GIS to communicate, search for and access information. Students will develop skills related to word processing, database management and spreadsheet applications.

#3

Health Science II: Health, Safety and Ethics in the Health Environment: Instructional content will focus on healthcare safety, health maintenance practices, environmental safety processes and procedures, and ethical and legal responsibilities as well as reinforce, expand and enhance biology content specific to diseases and disorders. Instruction will incorporate project- and problem-based healthcare practices and procedures to demonstrate the criticality of these knowledge and skills. Students will develop basic technical skills required for all health career specialties including understanding occupational safety techniques and obtaining their CPR and First Aid certifications.

#4

Health Science III: Employment in Health Occupations: Instructional content will focus on healthcare information technology applications, employability and career development, and technical skill preparation. These knowledge and skills will provide guidance for career selection and application for both entry-level employment and postsecondary preparation. Instruction will incorporate project- and problem-based healthcare practices and procedures to demonstrate the criticality of these knowledge and skills.

The following courses expose students to Cluster Pathway Knowledge and Skills found at <http://www.careerclusters.org/goto.cfm?id=37>. These knowledge and skills are reinforced and enhanced through participation in Health Occupations Students of America and work-based learning opportunities that are age and grade appropriate.

#5

Health Science IV: Introduction to Therapeutic Services: Instructional content will introduce students to therapeutic services career options, opportunities, accompanying educational requirements, employment projections, therapeutic treatment planning and implementation, information collection, and monitoring and evaluating patient status. Instructional content will enhance, expand and reinforce intra-team communication and patient interaction as introduced in Health Science I. With input and participation of therapeutic services professionals, instructional content will incorporate project and problem-based therapeutic practices and procedures to demonstrate the criticality of these knowledge and skills. Students will study strategies for client interaction and learn how to explain planned procedures to patients and health professionals, including goals, side effects and coping strategies. Students will use various strategies to respond orally, and with written communication, to questions and concerns of patients within their scope of practice.

#6

Health Science V: Therapeutic Services Preparation: Instructional content for the therapeutic services major will be consistent with industry practices and protocols (specific to career selection) and licensure, certification and degree requirements. The content focuses on employing intra-team communications and collection of patient information. Students will learn how to communicate patient information among team members to allow for feedback as needed. Students will also learn facility protocol and regulatory guidelines for collecting patient information. Students will participate in identifying patient healthcare needs, strengths and problems, and respond appropriately. Students will develop an understanding of the purposes of the treatment plan and how to collaborate in planning procedures that support the goals for the patient according to facility protocol, regulatory guidelines, and within their scope of practice. Students will learn how therapeutic services professionals should monitor and assess patients' health status, and develop appropriate therapeutic responses. Students will also practice evaluating patient needs, strengths and problems in order to determine if treatment goals are being reached.

Agriculture, Natural Resources, & Environmental Sciences

 UNIVERSITY of ALASKA	Recommended High School Preparation	Occupational Endorsement Certificates	Certificates	Associate's Degrees	Bachelor's Degrees	Graduate Certificates and Degrees	Examples of Continuing Education and Professional Development
Natural Resources Systems	<ul style="list-style-type: none"> English/ Language Arts Algebra/ Geometry Earth Science/ Biology Civics/History 		<ul style="list-style-type: none"> Mining Application & Technology (F) 	<ul style="list-style-type: none"> Renewable Resources (F) 	<ul style="list-style-type: none"> Environmental Science (S) Fisheries (F) Geological- Environmental Studies (F) Geology (F) Geological Sciences (A) Natural Resources & Agricultural Science (F) Natural Resource Management (F) Wildlife Biology (F) 	<ul style="list-style-type: none"> Environmental Chemistry (F) Fisheries (F) Geology (F) Environmental Quality Science (F) Natural Resource Management (F) Wildlife Biology (F) 	
Environmental Service Systems	<ul style="list-style-type: none"> English/ Language Arts Algebra/ Geometry Earth Science/ Biology Civics/History 	<ul style="list-style-type: none"> Wastewater Operations (S) Water Operations (S) 	<ul style="list-style-type: none"> Environmental Technology (S) Fisheries Technology (S) Fisheries/Aquac (A) Industrial Technology (A) Mechanical Technology (A) 	<ul style="list-style-type: none"> Environmental Technology (S) Fisheries Technology (S) 		<ul style="list-style-type: none"> Applied Environmental Science & Technology (A) Environment Quality Science (A) 	
Other programs that may lead to a career in this field				See also Science, Mathematics, Engineering, & Research Careers			

Architecture & Construction

 UNIVERSITY of ALASKA	Recommended High School Preparation	Occupational Endorsement Certificates	Certificates	Associate's Degrees	Bachelor's Degrees	Graduate Certificates and Degrees	Examples of Continuing Education and Professional Development
Design/Pre-Construction	<ul style="list-style-type: none"> English/ Technical Writing Algebra/ Geometry Physical Science/ Biology/Physics Civics/History/ Economics 		<ul style="list-style-type: none"> Architectural Drafting (A) Civil Drafting (A) Drafting Technology (F,S) Heating (A) Mechanical & Electrical Drafting (A) Refrigerator & Heating Tech (A) Structural Drafting (A) 				
Construction	<ul style="list-style-type: none"> English/ Technical Writing Algebra/ Geometry Physical Science/ Biology/Physics Civics/History/ Economics 	<ul style="list-style-type: none"> Construction Technology (S) Residential Building Science (S) Welding Technology (S) 	<ul style="list-style-type: none"> Construction Technology (S) Construction Trades Technology (F) Industrial Welding Technology (A) Non-Destructive Testing (A) Residential Building Science (S) Welding Technology (A,S) 	<ul style="list-style-type: none"> Apprenticeship Tech (A,F,S) Architecture & Engineering Technology (A) Construction Management (A,F) Construction Technology (S) Construction Trades Tech (F) Refrigerator & Heating Tech (A) Welding & Non-Destructive Testing Technology (A) Welding Tech (A) 		<ul style="list-style-type: none"> Project Management (A) 	Planning & Management—DOT (A)

Architecture & Construction

 UNIVERSITY of ALASKA	Recommended High School Preparation	Occupational Endorsement Certificates	Certificates	Associate's Degrees	Bachelor's Degrees	Graduate Certificates and Degrees	Examples of Continuing Education and Professional Development
Maintenance & Operations	<ul style="list-style-type: none"> • English/ Technical Writing • Algebra/ Geometry • Physical Science/ Biology/Physics • Civics/History/ Economics 	<ul style="list-style-type: none"> • Commercial HVAC Systems (A) • Commercial Refrigeration (A) • Electrical (A) • Residential AC & Refrigeration (A) • Residential Heating & Ventilation (A) 					
Other programs that may lead to a career in this field						See also Science, Mathematics, Engineering, & Research Careers	

Arts, AV Technology, & Communications

 UNIVERSITY of ALASKA	Recommended High School Preparation	Occupational Endorsement Certificates	Certificates	Associate's Degrees	Bachelor's Degrees	Graduate Certificates and Degrees	Examples of Continuing Education and Professional Development
Visual Arts	<ul style="list-style-type: none"> English/Language Arts/Speech Algebra/Geometry History/Political Science 	<ul style="list-style-type: none"> Basketry (S) Carving (S) Desktop Publishing & Graphics (A) Weaving (S) 		<ul style="list-style-type: none"> Digital Art (A) 	<ul style="list-style-type: none"> Art (A, F) 	<ul style="list-style-type: none"> Art (F) 	
Journalism & Broadcasting	<ul style="list-style-type: none"> English/Language Arts/Speech Algebra/Geometry History/Political Science 		<ul style="list-style-type: none"> Broadcast Communication (A) 	<ul style="list-style-type: none"> Broadcast Communication (A) 	<ul style="list-style-type: none"> Journalism (F) Journalism & Public Communication (A) 		
Performing Arts	<ul style="list-style-type: none"> English/Language Arts/Speech Algebra/Geometry History/Political Science 			<ul style="list-style-type: none"> Music (A) Theatre (A) 	<ul style="list-style-type: none"> Music (A, F) Music Performance (A) Theatre (A, F) 	<ul style="list-style-type: none"> Music (F) 	
Creative & Study of Written Word	<ul style="list-style-type: none"> English/Language Arts/Speech Algebra/Geometry History/Political Science 				<ul style="list-style-type: none"> English (A, F, S) General Studies (F) 	<ul style="list-style-type: none"> Creative Writing (A, F) Creating Writing & Literary Arts (A) English (A, F) Professional Communication (F) 	
Other programs that may lead to a career in this field				<ul style="list-style-type: none"> General Program (A, S) 	<ul style="list-style-type: none"> Interdisciplinary Studies (A, F) Liberal Arts (S) 	<ul style="list-style-type: none"> Interdisciplinary Studies (A, F) 	

Business, Management, & Administration

 UNIVERSITY of ALASKA	Recommended High School Preparation	Occupational Endorsement Certificates	Certificates	Associate's Degrees	Bachelor's Degrees	Graduate Certificates and Degrees	Examples of Continuing Education and Professional Development
Management	<ul style="list-style-type: none"> English/Language Arts/Foreign Language Algebra/Geometry/Pre-Calculus Biology/Physics/Chemistry History/Geography/Psychology 		<ul style="list-style-type: none"> Applied Business Management (F) Small Business Management (A) 	<ul style="list-style-type: none"> Applied Business (F) Business Administration (A,S) General Business (A) Small Business Administration (A) 	<ul style="list-style-type: none"> Business Administration (F,S) Management (A) 	<ul style="list-style-type: none"> Business Administration (A, F, S) 	<ul style="list-style-type: none"> CPM
Business Financial Management & Accounting	<ul style="list-style-type: none"> English/Language Arts/Foreign Language Algebra/Geometry/Pre-Calculus Biology/Physics/Chemistry History/Geography/Psychology 	<ul style="list-style-type: none"> Bookkeeping (A) 	<ul style="list-style-type: none"> Accounting Technician (F, S) 	<ul style="list-style-type: none"> Accounting (A) Applied Accounting (F) 	<ul style="list-style-type: none"> Accounting (A,F) Economics (A,F) Finance (A) 	<ul style="list-style-type: none"> Resource & Applied Economics (F) 	
Business Analysis	<ul style="list-style-type: none"> English/Language Arts/Foreign Language Algebra/Geometry/Pre-Calculus Biology/Physics/Chemistry History/Geography/Psychology 		<ul style="list-style-type: none"> Planning (A) 				

Business, Management, & Administration

 UNIVERSITY of ALASKA	Recommended High School Preparation	Occupational Endorsement Certificates	Certificates	Associate's Degrees	Bachelor's Degrees	Graduate Certificates and Degrees	Examples of Continuing Education and Professional Development
Marketing	<ul style="list-style-type: none"> English/Language Arts/Foreign Language Algebra/Geometry/Pre-Calculus Biology/Physics/Chemistry History/Geography/Psychology 				<ul style="list-style-type: none"> Marketing 		
Administration and Information Support	<ul style="list-style-type: none"> English/Language Arts/Foreign Language Algebra/Geometry/Pre-Calculus Biology/Physics/Chemistry History/Geography/Psychology 	<ul style="list-style-type: none"> Administration Office Supply (A,S) 	<ul style="list-style-type: none"> General Clerical (A) Office Occupations (A) 	<ul style="list-style-type: none"> Office Occupations (A) 	<ul style="list-style-type: none"> Management Information Systems (A) 		
Other programs that may lead to a career in this field	<ul style="list-style-type: none"> English/Language Arts/Foreign Language Algebra/Geometry/Pre-Calculus Biology/Physics/Chemistry History/Geography/Psychology 		Applied Business Emphasis Courses Available				

University of Alaska Educational Pathways

The selection and naming of the UA 14 Career Cluster areas was based on identifying available UA programs with specific award levels, then, without duplication, placing programs into a career cluster that closely aligns with the national model. Recognized awards levels in the UA system include: Workforce Certificates, Occupational Endorsements, and Associates, Bachelors, Masters, and Doctoral degrees. General information regarding basic academic requirements for each award level is provided on the following pages.

Representatives from the UA campuses of UA Anchorage, UA Fairbanks, UA Southeast, College or Rural Alaska, and UA Statewide collaborated and facilitated discussions with faculty and administrators throughout the system during this project. However, we recognize these documents will require continuous modification and updates as new programs are made available. We are committed to accepting feedback regarding how this information is displayed and ensuring it is as accurate as possible.

Many of the programs offered through the UA system will also lead to employment and academic opportunities in other career clusters. Refer to cluster icons for additional industry sectors with closely related training and skill sets.

UA has worked closely with the Alaska Department of Education and Early Childhood Development to identify recommended plans of study for students in secondary education. We encourage high school students and counselors to seek out career exploration, awareness, and pathway programs that may be available and/or adapted for use in your community. Examples of some programs include Tech Prep dual-credit programs, career academies, career awareness clubs, and business/industry sector sponsored programs. For programs available in your area you may contact the University of Alaska office of Workforce Programs or the Alaska Career and Technical Education Consortium.

National Career Cluster	Career Cluster Description	UA Educational Pathway
 Agriculture, Food & Natural Resources	The production, processing, marketing, distribution, financing, and development of agricultural commodities and resources including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.	Agriculture, Natural Resources, & Environmental Sciences Pathway
 Architecture & Construction	Careers in designing, planning, managing, building and maintaining the built environment.	Architecture & Construction Pathway
 Arts, AV Technology & Communications	Designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services.	Arts, AV Technology, & Communications Pathway
 Business, Management & Administration	Business Management and Administration careers encompass planning, organizing, directing and evaluating business functions essential to efficient and productive business operations. Business Management and Administration career opportunities are available in every sector of the economy.	Business, Management, & Administration Pathway
 Education & Training	Planning, managing and providing education and training services, and related learning support services.	Education & Training Pathway
 Government & Public Administration	Executing governmental functions to include Governance; National Security; Foreign Service; Planning; Revenue and Taxation; Regulation; and Management and Administration at the local, state, and federal levels.	Government, Public Policy, & Administration Pathway
 Health Science	Planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.	Health Sciences Pathway
 Hospitality & Tourism	Hospitality & Tourism encompasses the management, marketing and operations of restaurants and other foodservices, lodging, attractions, recreation events and travel related services.	Hospitality & Tourism Pathway
 Human Services	Preparing individuals for employment in career pathways that relate to families & human needs.	Human Services Pathway
 Information Technology	Building Linkages in IT Occupations Framework: For Entry Level, Technical, and Professional Careers Related to the Design, Development, Support and Management of Hardware, Software, Multimedia, and Systems Integration Services.	Information & Technology Pathway
 Law, Public Safety, Corrections & Security	Planning, managing, and providing legal, public safety, protective services and homeland security, including professional and technical support services.	Law & Public Safety Pathway
 Manufacturing	Planning, managing and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing/process engineering.	Manufacturing Pathway
 Science, Technology, Engineering & Mathematics	Planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and testing services, and research and development services.	Science, Technology, Engineering, & Research Pathway
 Transportation, Distribution & Logistics	Planning, management, and movement of people, materials, and goods by road, pipeline, air, rail and water and related professional and technical support services such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance.	Transportation, Distribution, & Logistics Pathway

Education & Training

 UNIVERSITY of ALASKA	Recommended High School Preparation	Occupational Endorsement Certificates	Certificates	Associate's Degrees	Bachelor's Degrees	Graduate Certificates and Degrees	Examples of Continuing Education and Professional Development
Teaching and Training	<ul style="list-style-type: none"> • English/ Language Arts • Algebra/ Geometry • Physical Science/ Biology or Chemistry • Civics/History/ Psychology or Sociology 	<ul style="list-style-type: none"> • Early Childhood (S) • Fitness Leadership (A) 	<ul style="list-style-type: none"> • Early Childhood Development (A) • Early Childhood Education (A,F,S) • Education Para-Professional (F) • Native Language Education (F) • Outdoor Skills & Leadership (S) • Yup'k Language Prof (F) 	<ul style="list-style-type: none"> • Early Childhood Development (A) • Early Childhood Education (A,F,S) • Education Para-Professional (F) • Native Language Education (F) • Yup'k Language Prof (F) 	<ul style="list-style-type: none"> • Alaska Native Studies (F) • Early Childhood (A) • Early Childhood & Family Studies (F) • Education (S) • Elementary Education (A,F,S) • Foreign Language (F) • Geography (F) • History (A,F) • Inupiaq Eskimo (F) • Japanese Studies (F) • Languages (A) • Liberal Studies (A) • Linguistics (F) • Music Education Elementary & Secondary (A) • Northern Studies (F) • Physical Education (A) • Russian Studies (F) • Secondary Education (A) • Yup'k Eskimo (F) 	<p>Certificates</p> <ul style="list-style-type: none"> • Early Childhood (A) • Elementary Education, K-8 (A) • Special Education (A) <p>Graduate Degrees</p> <ul style="list-style-type: none"> • Adult Education (A) • Applied Linguistics (F) • Counselor Education (A) • Cross-Cultural Studies (F) • Early Childhood Special Education (A) • Education (F) • Education MAT (A,S) • Interdisciplinary Studies MAT (F) • Master Teacher (A) • Northern Studies (F) • Secondary Education MAT (F,S) • Special Education (A) • Teaching MAT (A,S) • Vocational Education (A) 	<p>Endorsements</p> <ul style="list-style-type: none"> • Bilingual/ Multicultural Education, K-12 (F) • Early Childhood (S) • Elementary Education (A) • Math, K-8 (F,S) • Reading Specialist (A,F,S) • Special Education (A,S) • Secondary Education (A) • World Language Education, K-12 (F) <p>Licensures:</p> <ul style="list-style-type: none"> • Elementary Education, K-8 (A,F,S) • Elementary Education PBTE (A) • Physical Education (A) Reading (A) • Secondary Education, 7-12 (A,F) • Secondary Education PBTE (A) • Teaching (F)

Education & Training

 UNIVERSITY of ALASKA	Recommended High School Preparation	Occupational Endorsement Certificates	Certificates	Associate's Degrees	Bachelor's Degrees	Graduate Certificates and Degrees	Examples of Continuing Education and Professional Development
Professional Support Services	<ul style="list-style-type: none"> English/ Language Arts Algebra/ Geometry Physical Science/Biology or Chemistry Civics/History/ Psychology or Sociology 					<ul style="list-style-type: none"> Counselor & Guidance (A,F) Counseling (F) 	<p>Endorsements</p> <ul style="list-style-type: none"> Counselor & Guidance, K-8 (A) Counselor & Guidance, 7-12 (A) Counselor & Guidance, K-8 & 7-12 (A) Education Technology (A,S) <p>Licensures</p> <ul style="list-style-type: none"> Counselor & Guidance Type C (A, F)
Administration & Administrative Support	<ul style="list-style-type: none"> English/ Language Arts Algebra/ Geometry Physical Science/Biology or Chemistry Civics/History/ Psychology or Sociology 					<p>Certificates</p> <ul style="list-style-type: none"> Principal (A) Superintendent (A) <p>Graduate Degrees</p> <ul style="list-style-type: none"> Education Leadership (A) Public School Administration (A) 	<p>Endorsements</p> <ul style="list-style-type: none"> Principal (A) Superintendent (A) <p>Licensures</p> <ul style="list-style-type: none"> Education Leadership (A) Principal (A,F) Principal, 7-12 (A_) Principal, K-8 (A) Principal, K-8 & 7-12 (A)
Other programs that may lead to a career in this field					See also Agriculture, Natural Resources, & Environmental Sciences Arts, AV Technology, & Communications Education & Training Finance Health Services Human Services Information Technology Law & Public Safety Science, Technology, Engineering, & Research		

Government, Public Policy, & Administration

 UNIVERSITY of ALASKA	Recommended High School Preparation	Occupational Endorsement Certificates	Certificates	Associate's Degrees	Bachelor's Degrees	Graduate Certificates and Degrees	Examples of Continuing Education and Professional Development
Public Management and Administration	<ul style="list-style-type: none"> English/Language Arts/Foreign Language Algebra/Geometry/Statistics Physical Science/Biology/Chemistry or Environmental Sciences/Physics Civics/History/Psychology or Sociology/Economics 		<ul style="list-style-type: none"> Tribal Management (F) 	<ul style="list-style-type: none"> Tribal Management (F) 	<ul style="list-style-type: none"> International Studies (A) 	<ul style="list-style-type: none"> Business Administration (S) Public Administration (A) 	<ul style="list-style-type: none"> Leadership in Public Organizations (CEU) Facilitating Public Meetings (CEU) Legal Issues in Public Management (CEU) CPM
	<ul style="list-style-type: none"> English/Language Arts/Foreign Language Algebra/Geometry/Statistics Physical Science/Biology/Chemistry or Environmental Sciences/Physics Civics/History/Psychology or Sociology/Economics 		<ul style="list-style-type: none"> Applied Ethics (A) 		<ul style="list-style-type: none"> Political Science (A,F) 	<ul style="list-style-type: none"> Rural Development (F) 	<ul style="list-style-type: none"> Alaska Natural Resource Policy (CEU)
Other programs that may lead to a career in this field				See also Business, Management, & Administration Education & Training Finance Health Services Human Services Information Technology Law & Public Safety Science, Technology, Engineering, & Research			

Health Sciences

 UNIVERSITY of ALASKA	Recommended High School Preparation	Occupational Endorsement Certificates	Certificates	Associate's Degrees	Bachelor's Degrees	Graduate Certificates and Degrees	Examples of Continuing Education and Professional Development
Diagnostics	<ul style="list-style-type: none"> English/ Language Arts Algebra/ Geometry/Pre-Calculus or Statistics Biology/ Chemistry/ Anatomy/ Physiology Civics/History/ Psychology or Sociology 	<ul style="list-style-type: none"> Limited Radiography (A) 	<ul style="list-style-type: none"> Community Wellness Advocate Certificate (S) Pre-Nursing Qualifications (S) Pre-Radiological Technology Qualifications (S) 	<ul style="list-style-type: none"> Medical Laboratory Technology Radiologic Technology (A) 	<ul style="list-style-type: none"> Medical Technology (A) 	<ul style="list-style-type: none"> Medical Laboratory (A) Radiologic Technology (A) 	
Health Informatics	<ul style="list-style-type: none"> English/ Language Arts Algebra/ Geometry/Pre-Calculus or Statistics Biology/ Chemistry/ Anatomy/ Physiology Civics/History/ Psychology or Sociology 	<ul style="list-style-type: none"> Coding & Billing (A) Medical Office Specialist (S) 	<ul style="list-style-type: none"> Health Care Privacy (S) Health Care Reimbursement (F) Health Information Management (S) HIM Coding Specialist (S) Medical/Dental Receptionist (F) Coding Specialist (S) 	<ul style="list-style-type: none"> Health Information Management (S) Healthcare Management (F) Health Sciences (S) 	<ul style="list-style-type: none"> Emergency Services Management (F) Fire Service Administration (A) Health Sciences (A) 		

Health Sciences

 UNIVERSITY of ALASKA	Recommended High School Preparation	Occupational Endorsement Certificates	Certificates	Associate's Degrees	Bachelor's Degrees	Graduate Certificates and Degrees	Examples of Continuing Education and Professional Development
Support Services	<ul style="list-style-type: none"> English/ Language Arts Algebra/ Geometry/Pre-Calculus or Statistics Biology/ Chemistry/ Anatomy/ Physiology Civics/History/ Psychology or Sociology 						
Therapeutic Services	<ul style="list-style-type: none"> English/ Language Arts Algebra/ Geometry/Pre-Calculus or Statistics Biology/ Chemistry/ Anatomy/ Physiology Civics/History/ Psychology or Sociology 	<ul style="list-style-type: none"> Nurse Aide (F) Clinical Assistant (A) Pharmacy Technology (A) 	<ul style="list-style-type: none"> Dental Assistant (A,F) Medical Assistant (A,F) Community Health (F) Community Wellness (S) Pre-Nursing Qualifications (S) 	<ul style="list-style-type: none"> Community Health (F) Dental Assistant (A,F) Dental Hygiene (A, F is pending approval) Emergency Services (F) Medical Assistant (A,F) Nursing Science (S) Nursing (A) 	<ul style="list-style-type: none"> Nursing (A) 	<ul style="list-style-type: none"> Dental Assisting (A) Dental Hygiene (A) Massage Therapy (A) Medical Assisting (A) Pharmacy Technology (A) Nursing Science (A) Nursing Education (A) 	
Other programs that may lead to a career in this field				Applied Business Emphasis Courses Available		Public Health Practice (MPH) (A)	

Hospitality & Tourism

 UNIVERSITY <i>of</i> ALASKA	Recommended High School Preparation	Occupational Endorsement Certificates	Certificates	Associate's Degrees	Bachelor's Degrees	Graduate Certificates and Degrees	Examples of Continuing Education and Professional Development
Restaurant and Food & Beverage Services	<ul style="list-style-type: none"> • English/Language Arts • Algebra/Geometry/Statistics/Finance or Accounting • Physical Science/Biology/Chemistry/Physics • Civics/History/Psychology or Geography 		<ul style="list-style-type: none"> • Culinary Arts (F) 	<ul style="list-style-type: none"> • Culinary Arts (A,F) • Foodservice Technology (F) 	<ul style="list-style-type: none"> • Hospitality Restaurant Management (A) 		
Travel and Tourism	<ul style="list-style-type: none"> • English/Language Arts • Algebra/Geometry/Statistics/Finance or Accounting • Physical Science/Biology/Chemistry/Physics • Civics/History/Psychology or Geography 			<ul style="list-style-type: none"> • Tourism (F) 			
Other programs that may lead to a career in this field				See also Business, Management, & Administration			

Human Services



	Recommended High School Preparation	Occupational Endorsement Certificates	Certificates	Associate's Degrees	Bachelor's Degrees	Graduate Certificates and Degrees	Examples of Continuing Education and Professional Development
Human Services: <ul style="list-style-type: none"> • Early Childhood • Counseling & Mental Health Services • Family & Community Services 	<ul style="list-style-type: none"> • English/Language Arts • Algebra/Geometry/Trigonometry or Statistics • Physical Science/Biology/Chemistry/Physics • Civics/History/Psychology or Sociology 	<ul style="list-style-type: none"> • Early Childhood (S) • Community Mental Health Services (A) • Conflict Resolution (A) • Rural Human Services (F) 	<ul style="list-style-type: none"> • Developmental Disability (A) • Disability Services (A) • Early Childhood Development (A) • Early Childhood Education (A,F,S) • Rural Human Services (F) 	<ul style="list-style-type: none"> • Disability Services (A) • Early Childhood Development (A) • Early Childhood Education (A,F,S) • Human Services (A,F) 	<ul style="list-style-type: none"> • Early Childhood (A) • Human & Rural Development (F) • Human Services (A) • Philosophy (A) • Psychology (F) • Sociology (A,F) 	<ul style="list-style-type: none"> • Clinical Community Psychology (A,F) • Clinical Social Work Practice (A) • Community Psychology (F) • Counseling (F) • Early Childhood (A) • Early Childhood Special Education (A) • Social Work (A) • Social Work Management (A) • Special Education (A) 	<ul style="list-style-type: none"> • Counseling Psychology (A) • Early Childhood (S)
Other programs that may lead to a career in this field				See also Education & Training			

Information & Technology

 UNIVERSITY of ALASKA	Recommended High School Preparation	Occupational Endorsement Certificates	Certificates	Associate's Degrees	Bachelor's Degrees	Graduate Certificates and Degrees	Examples of Continuing Education and Professional Development
Network Systems	<ul style="list-style-type: none"> English/Language Arts Algebra/Geometry/Pre-Calculus or Trigonometry Physical Science/Biology/Chemistry/Applied Physics History/Political Science/Economics Information Technology Applications 	<ul style="list-style-type: none"> Introductory Network Administration (S) Networking (A) Networking Essentials (S) 	<ul style="list-style-type: none"> Computer & Networking Technology (A) Electronics Technology (A) Telecommunications and Electronic System (A) 	<ul style="list-style-type: none"> Computer Electronics (A) Computer Systems Technology (A) Electronics Technology (A) Telecommunications Electronic & Computer Technology (A) 			
Information Support and Services	<ul style="list-style-type: none"> English/Language Arts Algebra/Geometry/Pre-Calculus or Trigonometry Physical Science/Biology/Chemistry/Applied Physics History/Political Science/Economics Information Technology Applications 	<ul style="list-style-type: none"> Office Technology (A) 	<ul style="list-style-type: none"> Business Information Systems Support (S) Computer Information Office Systems (A,S) Information Technology Specialist (F) Office Management & Technology (A,F) Office Technology (A) Word/Information Processing (A) 	<ul style="list-style-type: none"> Business Computer Information Systems (A) Business Information Systems Support (S) Computer Information Office Systems (A,S) Information Systems (S) Information Technology Specialist (F) Office Management & Technology (A,F) 	<ul style="list-style-type: none"> Information Systems (S) 		

Information & Technology

 UNIVERSITY of ALASKA	Recommended High School Preparation	Occupational Endorsement Certificates	Certificates	Associate's Degrees	Bachelor's Degrees	Graduate Certificates and Degrees	Examples of Continuing Education and Professional Development
Interaction Media	<ul style="list-style-type: none"> English/Language Arts Algebra/Geometry/Pre-Calculus or Trigonometry Physical Science/Biology/Chemistry/Applied Physics History/Political Science/Economics Information Technology Applications 	<ul style="list-style-type: none"> Web Authoring (S) Web Foundations (A,S) 					
Programming and Software Development	<ul style="list-style-type: none"> English/Language Arts Algebra/Geometry/Pre-Calculus or Trigonometry Physical Science/Biology/Chemistry/Applied Physics History/Political Science/Economics Information Technology Applications 	<ul style="list-style-type: none"> Computer Application (S) Programming Foundations (S) 			<ul style="list-style-type: none"> Computer Engineering (F) Computer Science (A,F) 	Computer Science (F) Software Engineering (F)	
Other programs that may lead to a career in this field							

Law & Public Safety

 UNIVERSITY of ALASKA	Recommended High School Preparation	Occupational Endorsement Certificates	Certificates	Associate's Degrees	Bachelor's Degrees	Graduate Certificates and Degrees	Examples of Continuing Education and Professional Development
Emergency and Fire Management Services	<ul style="list-style-type: none"> English/Language Arts/ Technical Writing Algebra/Geometry/ Statistics Physical Science/ Biology/Chemistry/ Forensic Science History/Civics/ Psychology/Sociology 			<ul style="list-style-type: none"> Emergency Services (F) Fire & Emergency Services Technology (A) Fire Service Administration (A) 			
Law Enforcement Services	<ul style="list-style-type: none"> English/Language Arts/ Technical Writing Algebra/Geometry/ Statistics Physical Science/ Biology/Chemistry/ Forensic Science History/Civics/ Psychology/Sociology 		<ul style="list-style-type: none"> Applied Ethics (A) Law Enforcement (S) 		<ul style="list-style-type: none"> Justice (A,F) 		
Legal Services	<ul style="list-style-type: none"> English/Language Arts/ Technical Writing Algebra/Geometry/ Statistics Physical Science/ Biology/Chemistry/ Forensic Science History/Civics/ Psychology/Sociology 	<ul style="list-style-type: none"> Legal Office Support (A) 	<ul style="list-style-type: none"> Legal Secretary (A) Paralegal Studies (A) 	<ul style="list-style-type: none"> Paralegal Studies (F,S) 	<ul style="list-style-type: none"> Government (S) Justice (A,F) Philosophy (A) Political Science (A,F) 	<ul style="list-style-type: none"> Administration of Justice (F) Public Administration (A,F) 	
Other programs that may lead to a career in this field					<ul style="list-style-type: none"> International Studies (A) 		

Manufacturing

 UNIVERSITY of ALASKA	Recommended High School Preparation	Occupational Endorsement Certificates	Certificates	Associate's Degrees	Bachelor's Degrees	Graduate Certificates and Degrees	Examples of Continuing Education and Professional Development
Production	<ul style="list-style-type: none"> English/Language Arts Algebra/Geometry/Trigonometry or Statistics Physical Science/Biology/Chemistry/Physics History/Civics/Psychology/Economics 		<ul style="list-style-type: none"> Instrumentation Technology (F) Petroleum Technology (A) Power Generation (F) 	<ul style="list-style-type: none"> Industrial Process Instrumentation (A) Industrial Technology (A) Petroleum Technology (A) 			
Process Development	<ul style="list-style-type: none"> English/Language Arts Algebra/Geometry/Trigonometry or Statistics Physical Science/Biology/Chemistry/Physics History/Civics/Psychology/Economics 			<ul style="list-style-type: none"> Process Technology (A,F) 			
Health, Safety, and Environmental Assurance	<ul style="list-style-type: none"> English/Language Arts Algebra/Geometry/Trigonometry or Statistics Physical Science/Biology/Chemistry/Physics History/Civics/Psychology/Economics 		<ul style="list-style-type: none"> Health, Safety, Environmental Awareness (F) 	<ul style="list-style-type: none"> Occupational Safety and Health (A) 			
Other programs that may lead to a career in this field							

Science, Technology, Engineering, & Research

 UNIVERSITY of ALASKA	Recommended High School Preparation	Occupational Endorsement Certificates	Certificates	Associate's Degrees	Bachelor's Degrees	Graduate Certificates and Degrees	Examples of Continuing Education and Professional Development
Science and Mathematics	<ul style="list-style-type: none"> • English/ Language Arts • Algebra/ Geometry/ Trigonometry/ Pre-Calculus or Statistics • Biology/ Chemistry/ Physics/Organic Chemistry • History/World Geography/ Economics 				<ul style="list-style-type: none"> • Anthropology (A,F) • Applied Physics (F) • Biological Sciences (A,F) • Biology (S) • Chemistry (A,F) • General Science (F) • Marine Biology (S) • Mathematics (A,F,S) • Natural Sciences (A) • Physics (F) • Social Sciences (S) • Statistics (F) 	<ul style="list-style-type: none"> • Anthropology (A,F) • Atmospheric Sciences (F) • Biochemistry/ Molecular Biology (F) • Biological Sciences (A,F) • Botany (F) • Chemistry (F) • General Science (F) • Geophysics (F) • Marine Biology (F) • Mathematics (F) • Oceanography (F) • Physics (F) • Science Management (A,F) • Space Physics (F) • Statistics (F) • Zoology (F) 	

Science, Technology, Engineering, & Research

 UNIVERSITY <i>of</i> ALASKA	Recommended High School Preparation	Occupational Endorsement Certificates	Certificates	Associate's Degrees	Bachelor's Degrees	Graduate Certificates and Degrees	Examples of Continuing Education and Professional Development
Engineering and Technology	<ul style="list-style-type: none"> • English/ Language Arts • Algebra/ Geometry/ Trigonometry/ Pre-Calculus or Statistics • Biology/ Chemistry/ Physics/Organic Chemistry • History/World Geography/ Economics 		<ul style="list-style-type: none"> • Geographic Information Systems (A) 	<ul style="list-style-type: none"> • Geomatics (A) 	<ul style="list-style-type: none"> • Civil Engineering (A,F) • Electrical Engineering (F) • Engineering (A) • Geomatics (A) • Mechanical/ Electrical Engineering Consortium (A) • Mechanical Engineering (F) • Technology (F) 	<ul style="list-style-type: none"> • Arctic Engineering (A,F) • Civil Engineering (A,F) • Computational Physics (F) • Electrical Engineering (F) • Engineering (F) • Engineering Management (A,F) • Mechanical Engineering (F) 	
Other programs that may lead to a career in this field				See also Agriculture, Natural Resources, & Environmental Studies			

Transportation, Distribution, & Logistics

 UNIVERSITY of ALASKA	Recommended High School Preparation	Occupational Endorsement Certificates	Certificates	Associate's Degrees	Bachelor's Degrees	Graduate Certificates and Degrees	Examples of Continuing Education and Professional Development
Transportation Operations	<ul style="list-style-type: none"> World Geography Algebra or Geometry Communications IT Applications 	<ul style="list-style-type: none"> Marine Transportation (S) 		<ul style="list-style-type: none"> Air Traffic Control (A) Aviation Administration (A) Professional Piloting (A,F) 	<ul style="list-style-type: none"> Aviation Technology (A) 	<ul style="list-style-type: none"> Port & Coastal Engineering (A) 	<ul style="list-style-type: none"> Helicopter Underwater Egress Training (A)
Logistics Plan & Management and Management Services	<ul style="list-style-type: none"> World Geography Communications Algebra II or Statistics 	<ul style="list-style-type: none"> Logistics Operations (A) 	Logistics (A)	<ul style="list-style-type: none"> Logistics Operations (A) 	<ul style="list-style-type: none"> Global Logistics Management (A) Logistics (A) 	<ul style="list-style-type: none"> Global Supply Chain Management (A) Supply Chain Management (A) 	<ul style="list-style-type: none"> Planning & Management DOT (A)
Facility and Mobile Equipment Maintenance	<ul style="list-style-type: none"> World Geography Algebra or Geometry Communications IT Applications Maintenance Systems 	<ul style="list-style-type: none"> Automotive Technology (S) Brakes, Suspensions, & Alignment (A) Diesel Maintenance (S) Diesel/Marine (S) Engine Performance (A) Marine Engine Repair (S) Power Transmission (A) 	<ul style="list-style-type: none"> Airframe (F) Airframe & Powerpilot (F) Automotive Technology (A,F,S) Aviation Maintenance (A) Diesel Technology (A) Gr. Vehicle Maintenance Technology (F) Heavy Duty (A) Marine Technology (S) Power Plant (F) 	<ul style="list-style-type: none"> Auto Technology (A) Aviation Maintenance (A,F) Heavy Duty Technology (A) Power Technology (S) 			<ul style="list-style-type: none"> Outboard Repair, Snow Machine, Diesel Electronic Ignition, Ford Tech, GM Tech, Auto Basics, Avionics Maintenance & Installation
Other programs that may lead to a career in this field				See also Agriculture, Natural Resources, & Environmental Sciences Architecture & Construction Information Technology Science, Technology, Engineering, & Research			

MASSACHUSETTS
DEPARTMENT OF EARLY EDUCATION AND CARE
WORKFORCE DEVELOPMENT SYSTEM BUILDING UPDATE

MARCH 2009



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I. INTRODUCTION

Since its creation in 2005, the Board and Department of Early Education and Care have been charged through the enabling statute (MGL Chapter 15D: Section 5) to develop, implement, and annually report on progress towards a Workforce Development System for the early education and out of school time field (see Appendix A). Through this System, the goals of the Board and Department are to produce positive outcomes for children by supporting those who work with them directly or indirectly in a variety of roles and settings every day.

EEC released its first "Workforce Development Plan in January, 2006"¹ which provided a framework for the work and described the current state of the field. In June, 2007² EEC released an updated plan, which included key system elements and identified next steps for FY2008-2009.

Significant progress was made by the Massachusetts Early Education and Care and Out of School Time Workforce Development Task (Workforce Task Force), which was established in July 2007 by EEC, the United Way of Massachusetts Bay and Merrimack Valley and the Schott Fellowship in Early Care and Education³, now the CAYL Institute. The Workforce Task Force was charged with conducting further research and analysis to make recommendations on four key aspects of the workforce development system. These four areas; Core Competencies; EEC Orientation; Credentialing and Career Lattice; and Articulation/Transfer Agreements and Credit for Prior Learning were derived from the key elements of an effective workforce development system as defined in EEC's 2007 Workforce Development Plan. The work of each of the four Workforce Task Force committees is highlighted throughout this report. The complete report of the task force, "Steps Forward: Recommendations of the 2007-2008 Massachusetts Early Education and Care and Out of School Time Workforce Development Report," can be found at <http://www.eec.state.ma.us/docs/EEC%20OOST%20WDTTaskForceFINAL.pdf>; the summary brochure is available at <http://www.eec.state.ma.us/docs/08EECBrochure.pdf>.

THE WORK OF THE TASK FORCE HAS BEEN IMPORTANT IN HELPING MASSACHUSETTS TO TAKE THREE STEPS FORWARD: INITIATING BROAD INPUT, FURTHER DEFINING KEY ELEMENTS OF A PROFESSIONAL DEVELOPMENT SYSTEM, AND CRAFTING NEXT STEPS.

-STEPS FORWARD, 2008

II. KEY ELEMENTS OF A WORKFORCE DEVELOPMENT SYSTEM

EEC has identified the following key elements that must be in place to establish a comprehensive Workforce Development System for Massachusetts:

1. Statewide Infrastructure Building, Leadership, and Strategic Planning;
2. Core Competencies (and Orientation);
3. Professional Development Data Management System;
4. Credentialing and Career Lattice (Career Pathways); and
5. Professional Development Opportunities and Resources Aligned with Requirements and Workforce Needs

¹ EEC's 2006 Workforce Development Plan is available at

http://www.eec.state.ma.us/docs/Workforce_Development_Plan_2006.pdf

² EEC's 2007 Workforce Development Plan Update is available at: <http://www.eec.state.ma.us/docs/2007WorkforceReport%206.07.pdf>.

³ The Schott Fellowship in Early Care and Education is now the Community Advocates for Young Learners (CAYL) Institute.

1. STATEWIDE INFRASTRUCTURE BUILDING, LEADERSHIP, AND STRATEGIC PLANNING

Building a statewide infrastructure, leadership, and strategic planning are at the forefront of a well developed and comprehensive system. This past year has seen two pivotal events that expand and underscore this work. The creation of the Executive Office of Education (EOE) overseeing the Departments of Early Education and Care (EEC), Elementary and Secondary Education (ESE), and Higher Education (DHE) provides greater opportunity for connecting the professional development systems of these three agencies into a teacher preparation system in the Commonwealth. The report of the Governor's Readiness Commission, "Ready for 21st Century Success," emphasizes the importance of life long learning, beginning at birth, and the urgency of developing a workforce that can support the readiness of our children and youth at all stages of their development.

Although workforce development requires an infrastructure all its own, it is also a key structural element in several related EEC initiatives such as Universal Pre-Kindergarten (UPK) and the Quality Rating Improvement System (QRIS) that are building blocks of the larger statewide system of early education and care. In 2008, EEC began to encourage UPK programs to allocate funds on professional development opportunities that align with EEC's Core Competencies and offer undergraduate or graduate credits or CEUs; and the future QRIS will recognize Program and Practitioner Supports as a key need of that system.

EEC's professional development initiatives have not been exempt from the pervasive economic events of these past several months. Diminishing state revenues and the resulting 9C cuts necessitated a 36% reduction in the funding EEC planned to expend on professional development in FY2009. Specifically, professional development funding to the CCR&Rs was cut by 45%; funding to the CPCs was cut by an average of 46%. A \$200,000 increase in the CDA scholarship program was eliminated and the Building Careers grant program received a minor funding cut as well.

Despite these challenges, EEC's vision of a professional development system for the early education and care and out of school time workforce remains undiminished, although it will likely take longer to achieve. What has become clear in this climate is that we can no longer afford to do "business as usual;" there is new urgency to maximize resources, reduce duplication, and foster collaborative relationships among our professional development partners in the field. If there is a silver lining in these tough economic times it is this opportunity to examine and improve the infrastructure for delivering professional development services to our workforce.

2. CORE COMPETENCIES AND ORIENTATION

EEC'S WORKFORCE GUIDING PRINCIPLES

INVOLVE AND ENGAGE STAKEHOLDERS IN THE PLANNING, DEVELOPMENT, AND ASSESSMENT OF THE WORKFORCE DEVELOPMENT SYSTEM;

INCLUDE ALL STAFF ROLES AND LEVELS, WORKING IN ALL SETTINGS, WITH CHILDREN OF ALL ABILITIES, BIRTH TO AGE 14;

BUILD ON THE STRENGTHS OF CURRENT WORKFORCE;

PROVIDE A FULL CONTINUUM OF OPPORTUNITIES FOR ALL STAFF ROLES AND LEVELS;

ASSURE EQUITY THROUGH INTEGRATION AND ALIGNMENT OF STANDARDS ACROSS PUBLIC AND PRIVATE SYSTEMS;

ENSURE AND PROMOTE DIVERSITY AMONG ALL ROLES AND LEVELS OF THE WORKFORCE, THROUGHOUT REGIONS AND LOCAL COMMUNITIES THROUGH ACCESSIBLE PROFESSIONAL DEVELOPMENT OPPORTUNITIES AND CLEAR CAREER PATHWAYS;

SET HIGH STANDARDS AND PROVIDE THE SUPPORTS AND INCENTIVES FOR INDIVIDUALS TO MEET AND MAINTAIN THEM;

ESTABLISH BEST PRACTICES FOR WORKING WITH CHILDREN AND FAMILIES BASED ON CURRENT RESEARCH;

LINK SUCCESSFUL CAREER ADVANCEMENT TO INCREASES IN COMPENSATION; AND

MAINTAIN A BALANCE AMONG ACCESS, COST, AND QUALITY ACROSS THE SYSTEM.

Core Competencies are defined as the range of knowledge and observable skills that adults working with children need to facilitate learning and development (National Child Care

One Goal of Core Competencies

“TO CAPTURE THE BREADTH AND DEPTH OF WHAT EDUCATORS, YOUTH WORKERS, AND ADMINISTRATORS IN THE FIELD SHOULD KNOW AND BE ABLE TO DEMONSTRATE.”

STEPS FORWARD, 2008

Information and Technical Assistance Center, 2005); and give educators a framework for professional development -- a road map -- leading them to new credentials, or guiding on-going professional development at various career stages.

Massachusetts is among several states developing and implementing core competencies for early education and care. Massachusetts is, however, unique in creating a single core competencies document for all types of care and all ages served birth to 14 years old. The competencies are

also intended for use across early education and care, out of school time, and Early Intervention (through a collaborative process with the Department of Public Health (DPH)) to facilitate increased transferability of knowledge and skills.

In addition, EEC has proposed regulations that require that all who enter the Massachusetts early education and care and out of school time workforce undergo an orientation to their profession⁴, EEC’s vision is to develop a statewide orientation system that offers those entering the field an introduction to core knowledge about child development and other competency areas.

Two committees of the Workforce Task Force worked to align this key system element; the Core Competencies Committee determined the 8 core areas of competency all staff must demonstrate and the Orientation Committee imbedded these competency areas in its recommended 40 hours of required orientation that staff would undergo during their first two years of employment in the field.

3. PROFESSIONAL DEVELOPMENT DATA MANAGEMENT SYSTEM

EEC is developing a comprehensive system that will provide current and accurate data on the early education and care and out of school time workforce. This system is being designed to support educators by recognizing and documenting their qualifications, and providing them with information about professional development opportunities across the state, qualified trainers, as well as career options and pathways. EEC anticipates that the initial phase of this data management system, a basic registry, will be in operation in fiscal year 2010. EEC’s proposed regulations will require annual registration by all staff working in EEC-licensed programs.⁵

4. CREDENTIALING AND CAREER LATTICE (CAREER PATHWAYS)

The lack of a clear set of credentials and a career lattice or pathway for the early education and care and out of school time workforce continues to be an obstacle in the development of a comprehensive and equitable workforce development system. Developing a single

⁴ In its proposed regulations, EEC has included a requirement that, “All educators must attend an orientation to early education and care approved by the Department”.

⁵ EEC’s proposed regulations require that, “All educators must register annually with the Department of Early Education and Care in accordance with EEC policies and procedures.”

career lattice for our field that aligns different program types (e.g. group, family child care, school age programs) and includes all positions (group leader, director, and family child care assistant, etc.) is very challenging.

The Credentialing and Career Lattice Committee of the Workforce Task Force was charged with outlining a set of credentials for each type of care and setting and identifying the various pathways for movement within and among these credentials and domains. The purpose of this work is to develop a flexible lattice model with multiple points of entry that illustrate the options for career growth and advancement for all educators.

5. PROFESSIONAL DEVELOPMENT OPPORTUNITIES AND RESOURCES ALIGNED WITH REQUIREMENTS AND WORKFORCE NEEDS

Since 2007 EEC has worked to align its professional development requirements and standards through agency initiatives.

EEC strives to leverage and maximize available resources by requiring entities receiving Professional Development funding (CCR&R agencies, Building Careers Colleges and CPC programs) to collaborate with each other and other entities such as family child care systems, Massachusetts Family Networks (MFNs), Parent-Child Home Programs (PCHPs), institutions of higher education, Head Start programs, local education authorities (LEAs), and educational collaboratives to address the professional development needs of the field.

EEC also supports two scholarship programs, the Early Childhood Educators (ECE) Scholarship and Child Development Associate (CDA) Scholarship. The ECE scholarship aims to increase the number of degreed staff in the field. The CDA credential requires formal education, time in the field, evaluation and observation to document the increased ability of the educator to meet specific needs of children and work with parents to nurture children's physical, social, emotional, and intellectual growth. The attainment of a CDA credential enables family child care providers to meet EEC requirements for the CPC and UPK grants and corresponds with EEC Lead Teacher Certification requirements.

During the spring of 2008 EEC formally began developing a Massachusetts Quality Rating & Improvement System (QRIS), which is a method to assess, improve, and communicate the level of quality in early care & education and after-school settings (Stair Steps to Quality, United Way Success by Six, p. 4). A key piece of this system is building on current/existing resources to put an infrastructure in place that supports programs and practitioners in meeting and maintaining quality standards (Mitchell, 2005).

EEC continues to strive to knit together current resources into a professional development system that will facilitate the identification of existing gaps and necessary resources.

III. KEY NEXT STEPS (2007-2008)

In the 2007 Workforce Development Plan, EEC identified 10 key next steps to moving forward with the establishment and advancement of the workforce system's key elements.

1. Convene the Massachusetts Early Education and Care and Out of School Time Workforce Development Task Force.

2. Build EEC's capacity by hiring additional staff to implement the workforce plan.
3. Continue to collect and analyze data on "current state" including assessing statewide professional development needs.
4. Work with the DHE to build the capacity of two and four year schools to work with the early education and care and out of school time workforce.
5. Continue linking funding increases to staff/program quality through Universal Pre-K (UPK), and other quality initiatives development.
6. Seek feedback and finalize Core Competencies.
7. Design a basic EEC Orientation program to help all educators that are entering the field learn about EEC regulations, core competencies, and resources for professional development and support.
8. Begin building an IT infrastructure for EEC Professional Development Data Management System.
9. Continue research on developing comparable credentials for those working across settings and how those can most effectively link to both core competencies and a career lattice.
10. Identify critical gaps and develop FY2009 budget priorities to begin addressing most critical needs.

IV. PROGRESS TO DATE

Listed below is the progress made in the past year per each key next step identified in the 2007 Workforce Development Plan.

KEY NEXT STEP 1:

Convene the Massachusetts Early Education and Care and Out of School Time Workforce Development Task Force.

In collaboration with the United Way of Massachusetts Bay and Merrimack Valley and the Schott Fellowship in Early Care and Education, now the CAYL Institute, EEC convened the Massachusetts Early Education and Care and Out of School Time Workforce Development Task Force (Workforce Task Force) in July 2007. The Workforce Task Force was comprised of more than 50 members representing early education and out of school time, colleges and universities, state agencies, professional organizations, training organizations, workforce development agencies, private business partners, and private funders. The purpose of the Workforce Task Force was to provide EEC with feedback, recommendations, and actionable next steps for developing a comprehensive system of professional development for the field. The Workforce Task Force focused on four of the key areas from EEC's 2007 Workforce Development Plan: core competencies, orientation, credentialing and career lattice, and transfer agreements and credit for prior learning.

KEY NEXT STEP 2:

Build EEC's capacity by hiring additional staff to implement the workforce plan.

EEC re-organized its structure and filled positions to prioritize workforce development. EEC divided the previously existing Quality and Workforce Development Unit into two distinct units to sharpen the focus on workforce development. In addition, two staff members were hired resulting in a Workforce Development unit comprised of an Associate Commissioner position and three specialists devoted entirely to workforce development policies and programmatic development. Three additional staff in the unit support the professional certification program that reviews the qualifications of staff in group child care settings.

KEY NEXT STEP 3:

Continue to collect and analyze data on “current state” including assessing statewide professional development needs.

EEC continues to collect quantitative and qualitative data on the early education and care and out of school time workforce through a variety of mechanisms including annual grant applications, mid and end of year reports, and the professional development calendar. EEC also receives feedback on the needs of the workforce anecdotally from internal and external stakeholders such as the EEC Advisory and other groups. However, there remains a critical need for robust data on the early education and out of school time workforce and its professional development needs. After developing a specifications document detailing its information and technology (IT) needs, EEC issued an RFR for the development of a Unified Information Technology System to align existing computer applications and to develop the forward-looking tools EEC needs. One of the first components to be developed will be the Professional Data Management System which will enable EEC to gather and analyze “real-time” data on the composition and professional development needs of the workforce.

KEY NEXT STEP 4:

Work with the DHE to build the capacity of two and four year schools to work with the early education and care and out of school time workforce.

The Articulation/Transfer Agreements and Credit for Prior Learning Committee of the Workforce Task Force was charged with developing recommendations to make higher education more accessible to the early education and care and out of school time field by addressing the articulation of credit across institutions and recognition of prior learning. The committee identified two goals: 1) strengthen Massachusetts’ current statewide transfer policies and practices, and 2) develop new policies and practices that support student success. To this end, the committee researched how Massachusetts’ institutions of higher education address prior learning, and studied articulation and transfer systems in other states. For the committee’s specific recommendations refer to *“Steps Forward: Recommendations of the 2007-2008 Massachusetts Early Education and Care and Out of School Time Workforce Development Report”*.

DHE has statutory authority over inter-institution student transfer. In April 2007, DHE created the Commonwealth Transfer Advisory Group (CTAG) to analyze issues that affect transfer and to recommend improvements. CTAG included members of the Joint Committee on Higher Education; faculty and staff from public institutions of higher education; members of the Joint Admissions Executive Committee; and experts on transfer issues. Over a 10-month period ending in March 2008, the group diagnosed barriers associated with transfer, examined other states’ policies and practices, identified costs associated with improvements, and recommended solutions. Specific recommendations from CTAG are available in the group’s final report *“MA Board of Higher Education Final Report from the Commonwealth Transfer Advisory Group”*.

The two committees shared a Chair and had a similar charge. As a result, the committees made several recommendations in common including the need for:

- A directory of course-to-course equivalencies;
- An electronic transcript delivery system with eventual addition of online degree audits;
- A statewide transfer website;
- An annual report to the Legislature;
- A full-time transfer coordinator at DHE;
- Statewide faculty meetings;
- Regular institutional reviews;
- Public recognition of good transfer practices; and
- An increase tuition waiver to a 100% tuition discount.

With these recommendations, easing access to higher education for the early education and care and out of school time field is being given priority at both agencies and at the Secretariat level; it is also a key recommendation of the Governor's *Readiness Report/ Education Action Agenda* (see inset below).

Ready for 21st Century Success, 2008

Action Steps and Related EEC Initiatives

Short Term (2008-2011)

Provide students with maximum flexibility and mobility to earn a college degree by guaranteeing transfer of course credit between and among the state's public higher education institutions.

- *EEC is working with DHE and institutions of higher education to improve articulation agreements and develop policies to support students.*

Mid Term (2012 – 2015)

Annually increase the investment in and availability of dual enrollment opportunities for all students. We will focus initially on first-generation college-goers, students interested in science, technology, engineering and mathematics disciplines, and concurrent enrollment programs for students with special needs.

- *The Early Childhood Educators (ECE) Scholarship and Building Careers in Early Education and Care grant provide early education and care and out of school time educators with the means and flexibility to earn a college degree.*
- *In partnership with DHE EEC is working to provide school age children with additional opportunities in science, technology, engineering, and mathematics (STEM).*

Long Term (2016 and beyond)

To capitalize on the critical role of community colleges in our education and workforce development system and to enhance the ability of Massachusetts' students and businesses to compete internationally, the public education system should include guaranteed access to free community college or the equivalent postsecondary or vocational education.

- *The Building Careers in Early Education and Care grant includes 13 of the 15 community colleges in the Commonwealth. Both the ECE Scholarship and Building Careers grant provide free community college to the early education and care and out of school time workforce.*

KEY NEXT STEP 5:

Continue linking funding increases to staff/program quality through Universal Pre-K (UPK), and other quality initiatives development.

Universal Pre-K (UPK): EEC continues to link funding increases to staff/program quality through the implementation of Universal Pre-K (UPK).

Through the UPK program, EEC seeks to ensure that all preschool children have a high-quality early learning experience and enter school ready to learn and succeed. EEC has awarded UPK pilot grants to programs to maintain and improve the quality of their preschool services by funding a system of workforce development that links program quality, staff competency, resources and supports.

EEC's UPK concept paper, "*Universal Pre-Kindergarten (UPK) Expansion and Phase-in Concept Paper, Updated May 2008*", summarizes the current state of preschool access, quality, and affordability and key components of a comprehensive UPK system including leadership and professional development.

The UPK program grants can be used to fund increased teacher compensation and to strengthen teaching practice and professional development opportunities for staff. The recent August 2008 study by Abt Associates, Inc., "*Massachusetts Universal Pre-Kindergarten (UPK) Pilot Program: FY08 Evaluation*⁶" confirmed the link between programs' use of UPK funds and professional development.

FY2008 UNIVERSAL PRE-K

- **218 QUALITY GRANTS AWARDED WITH 312 CLASSROOMS OR FAMILY CHILD CARE HOMES.**
- **67 AGENCIES REPRESENTING MORE THAN 285 SITES AWARDED ASSESSMENT PLANNING GRANTS.**

"THE FACT THAT, GIVEN SUFFICIENT PLANNING TIME, GRANTEEES ALLOCATED MORE OF THEIR FUNDING TO PROFESSIONAL DEVELOPMENT FOR STAFF AND FOR STAFF COMPENSATION, UNDERLINES PROGRAMS' RECOGNITION THAT (A) STAFF ARE A CRITICAL, IF NOT THE MOST IMPORTANT FEATURE IN DETERMINING THE QUALITY OF A PROGRAM, (B) INVESTMENTS IN STAFF REQUIRE SOME LONG-RANGE PLANNING, AND (C) UNLIKE MATERIALS, NEEDS IN THE AREA OF SUPPORT FOR STAFF CANNOT BE MET ON A ONE-TIME BASIS BUT ARE A CONTINUING PART OF QUALITY. IT ALSO SUGGESTS THAT, OVER TIME, PROGRAMS CAN BECOME MORE SOPHISTICATED ABOUT TARGETING THEIR FUNDING TO WHAT ARE, ARGUABLY, THE AREA OF HIGHEST PRIORITY FOR QUALITY—INVESTMENTS IN STAFF."

MASSACHUSETTS UNIVERSAL PRE-KINDERGARTEN (UPK) PILOT PROGRAM: FY08 EVALUATION, EXECUTIVE SUMMARY, 2008

Quality Rating Improvement System (QRIS): In February 2008, EEC began developing a Quality Rating and Improvement System (QRIS) to evaluate, communicate, and improve the quality of programs in Massachusetts. EEC convened a group of experts from the field

FIVE COMMON ELEMENTS OF A QUALITY RATING AND IMPROVEMENT SYSTEM

1. **STANDARDS**
2. **ACCOUNTABILITY**
3. **PROGRAM AND PRACTITIONER OUTREACH AND SUPPORT**
4. **FINANCIAL INCENTIVES**
5. **FAMILY/CONSUMER EDUCATION**

- MITCHELL, 2005

to make preliminary recommendations on the goals, principles, structure, standards, and overall vision for the QRIS.

The QRIS is being designed for licensed and license-exempt programs and providers serving children birth through age 14, which includes center or public school-based programs, family child care, and after school and out of school time programs. Participation in the QRIS will initially be voluntarily and over the long term may become mandatory for programs and providers benefiting from certain funding streams. The QRIS standard areas deliberately parallel the core

⁶ The complete executive summary is available at: <http://www.eec.state.ma.us/docs/UPK%20Evaluation%20Executive%20Summary.pdf>

competency areas identified by the Workforce Task Force. The career lattice is also a central part of the “Workforce Quality and Support” standard area.

The recommendations and foundational work of the Workforce Task Force are an important resource for the QRIS workgroup. The intentional overlap in the membership for both initiatives supported necessary communication to align and coordinate these efforts. Over the next year components of QRIS will be developed and implemented including supports for programs and practitioners.

KEY NEXT STEP 6:

Seek feedback and finalize Core Competencies.

Based on an initial draft and expert consultation with the National Child Care Information and Technical Assistance Center (NCCIC), the Workforce Task Force subcommittee established 8 core competency indicators. The committee stressed that the resulting document is a draft and recognized that this “first edition” will evolve as the field gains experience with its use.

EEC has imbedded the recommended Core Competency Areas in grant and contract applications for FY2008 and FY2009 including the Building Careers in Early Education and Care (Building Careers) and Community Partnerships for Children (CPC) Professional Development Grants, and the Child Care Resource and Referral (CCR&R) contracts for professional development. Each entity is responsible for indicating how their current trainings and coursework align with the recommended core competency areas.

In addition, EEC’s new electronic Professional Development Calendar⁷ has been designed to sort the available professional development opportunities by these core competency areas allowing educators to select professional development that best suits their needs. This will also allow EEC to determine which core competency areas need additional resources.

-
- CORE COMPETENCY AREAS*
1. *UNDERSTANDING THE GROWTH AND DEVELOPMENT OF CHILDREN AND YOUTH*
 2. *GUIDING AND INTERACTING WITH CHILDREN AND YOUTH*
 3. *PARTNERING WITH FAMILIES AND COMMUNITIES*
 4. *HEALTH, SAFETY, AND NUTRITION*
 5. *LEARNING ENVIRONMENTS AND CURRICULUM*
 6. *OBSERVATION, PLANNING, AND ASSESSMENT*
 7. *PROGRAM PLANNING AND DEVELOPMENT*
 8. *PROFESSIONALISM AND LEADERSHIP*

KEY NEXT STEP 7:

Design a basic EEC Orientation program to help all educators entering the field learn about EEC regulations, core competencies, and resources for professional development and support.

In 2008, EEC guided the proposed child care licensing regulations, including the requirement for a standard orientation to the field, through both informal and formal public comment processes. Upon implementation (scheduled for January 2010), this Orientation would then be phased-in as a requirement.

⁷ EEC’s Professional Development Calendar can be viewed at <http://www.eec.state.ma.us/ProfessionalDevelopment/WebFindTraining.aspx>

The Orientation Committee of the Workforce Task Force conducted an extensive comparison of orientation models from other states and researched aligning orientation with a statewide workforce development system. The committee made the following recommendations:

- 40 hours of orientation required for all new staff;
- 10 hours of basic orientation to be completed within first 120 days of entering the workforce;
- 10 additional hours completed by the end of the first year of employment for a more in-depth review of the competencies;
- An additional 20 hours of professional development in the second year which addresses specific age groups, settings, and roles;
- Family child care providers must participate in an additional 5 hour pre-service orientation before working directly with children; and
- Completion of the 40 hours of content should be approved for 4 Continuing Education Units (CEUs), weighted credit at community colleges and/or credit toward EEC required in-service professional development hours.

KEY NEXT STEP 8:

Begin building an IT infrastructure for EEC Professional Development Data Management System.

In FY2009, EEC developed and launched a key component of the Professional Development Data Management System, a web-based Professional Development Calendar to serve as a centralized source of information on courses and training for all educators and licensees. In addition to empowering educators to make informed decisions about their professional development options, EEC's Professional Development Calendar will foster collaboration across training entities, reduce duplication to maximize resources, and make it easier for EEC licensors to identify resources for providers as issues arise.

In February 2009 EEC will launch development of its Unified Information Technology (IT) System which will greatly enhance the agency's capabilities to better achieve its mission of delivering services to Massachusetts families and children and the educators who serve them. One of the first projects of the Unified IT System will be the enhancement of the current Professional Qualifications registry and the Professional Development Calendar to create the EEC Professional Development Data Management System. Enhancements to the current Professional Qualifications system will include accommodating EEC's proposed regulations (to be promulgated in January 2010), adding out of school time educators and family child care educators, and tracking the proposed EEC Orientation requirements. Design for this stage of the project will begin in March 2009 with an anticipated release date of July 2009. The second tier of this project will be to tackle the Professional Development Calendar including necessary enhancements anticipated for fall 2009 with a release scheduled for winter 2010.

KEY NEXT STEP 9:

Continue research on developing comparable credentials for those working across settings and how those can most effectively link to both core competencies and a career lattice.

The Credentialing and Career Lattice Committee established a foundational set of principles to guide the development of the lattice. Their overarching goals were to define clear professional development pathways for all educators that are linked to a system of incentive-based compensation, and to enhance public recognition of early education and

care and out of school time educators as professionals. The committee envisions a credentialing and career lattice system that:

- Ties certificate and degree acquisition to ongoing professional development;
- Values/validates experience and prior learning;
- Facilitates collaboration between institutes of higher education (i.e. articulation agreements, non-traditional methods of education/training);
- Includes career mentoring/counseling;
- Is flexible and offers multiple points of entry and advancement;
- Is based on core competencies and linked to explicit standards;
- Values other bodies of knowledge and provides for reciprocity of training across other systems;
- Is evidence-based and is continually evaluated for effectiveness;
- Addresses the needs of non-traditional learners and linguistically diverse populations; and
- Is culturally sensitive and encourages diversity.

The committee examined other states' systems and developed an outline of position levels with defined roles and responsibilities, education, and experience requirements. The committee also established that, along with education and experience, evaluation is a necessary component of an effective competency-based credentialing and career lattice system.

KEY NEXT STEP 10:

Identify critical gaps and develop FY2009 budget priorities to begin addressing most critical needs.

Building Careers Grants: EEC sustained the Building Careers grant program in FY2008 through a combination of funding streams, including federal funds. In FY2009 Building Careers was funded entirely with state dollars for the first time.

Using a cohort model overseen by a coordinator at each college, the Building Careers program provides academic advising and career counseling to individuals in the field of early education and care and out of school time who are seeking a degree in early childhood education or a related field. In addition to tuition assistance, the Building Careers program responds to the needs of educators in the field by offering courses during weekends and evenings.

EEC has aligned the Early Childhood Educators (ECE) Scholarship and Building Careers programs by expanding the role of the Building Careers Coordinator to include supporting ECE Scholarship recipients at those colleges so that they too benefit from the support services such as mentoring, tutoring, and advising.

To respond to needs identified by the field, EEC amended the FY2008 grants to 15 Building Careers colleges to fund undergraduate and graduate courses focused on children with special needs. The additional

FY2008 BUILDING CAREERS IN EARLY EDUCATION AND CARE

- **21** MA INSTITUTIONS OF HIGHER EDUCATION
- **103** COURSES SUPPORTED
 - 64 EARLY CHILDHOOD EDUCATION CLASSES
 - 25 GENERAL EDUCATION CLASSES
 - 15 SPECIAL EDUCATION CLASSES
- **~137** ADDITIONAL STUDENT SUPPORTED THROUGH TUITION REMISSION
- **~500** EDUCATORS SERVED

FY2008 ECE SCHOLARSHIP

- **\$4M** IN FUNDING
- **1,300** APPLICANTS
- **900** APPROVED APPLICANTS
 - 47% ENROLLED IN ASSOCIATE DEGREE PROGRAM
 - 53% ENROLLED IN BACHELOR DEGREE PROGRAM
- MORE THAN 4000 COURSES SUPPORTED

*ECE SCHOLARSHIP DATA PROVIDED BY OFFICE OF STUDENT FINANCIAL ASSISTANCE AS OF JULY 1, 2008.

coursework was available to Building Careers students, staff working with children with special needs, and those who are responsible for training staff. These Building Careers colleges provided at least 315 educators in the early education and care and out of school time field with this critical resource. Given the success of the amendment and demand for coursework related to children with special needs this component was continued in the FY2009 grant application.

STEM Curricula in After School/Out of School Time (ASOST) Programs: EEC is partnering with DHE to provide school age children with additional opportunities to engage in science, technology, engineering, and mathematics (STEM) education through after school/out of school time (ASOST) programming. The goal is to generate interest in students that leads them to consider careers in these fields. This initiative is an outgrowth of the STEM Pipeline Fund, an economic stimulus package the Commonwealth launched in 2003 to develop the STEM workforce by improving educational offerings, producing qualified teachers, and growing the number of students who prepare for and enter STEM careers. STEM Pipeline funds will be used to pilot STEM curricula developed by the Museum of Science and WGBH in eight EEC-licensed after school programs beginning in spring 2009. EEC will facilitate training after school program staff to coordinate the participation of the eight after school programs from three regions in Massachusetts (Western, Metro Boston, and Northeast). Pending results of this pilot and availability of funding, the initiative could be expanded to include more ASOST programs and continue collaborative efforts.

V. NEXT STEPS FOR 2009-2010

1. Work through the Executive Office of Education to align EEC's efforts in developing a workforce development system with the Action Steps in the Governors' Readiness Report.
2. Convene a Professional Development Workgroup of EEC's Advisory Team to advance the recommendations of the MA Early Education and Care and Out of School Time Workforce Development Task Force by integrating the work of the four committees and incorporating the recommendations into EEC's overall workforce development plans.
3. Solicit and share broader input from the early education and out of school time field on the recommendations of the MA Early Education and Care and Out of School Time Workforce Development Task Force.
4. Finalize the core competencies and continue to imbed them into grants, contracts, orientation, and other professional development vehicles.
5. Collaborate with Department of Higher Education, through the Executive Office of Education, to implement recommendations of CTAG and the Workforce Task Force related to transfer and articulation among state institutions of higher learning.
6. Partner with the Executive Office of Education, the Department of Higher Education and institutions of higher education in Massachusetts to develop plans that offer free access to community college to early education and care and out of school time staff.
7. Pending funding availability, connect scholarships for the Child Development Associate (CDA) credential to college credit so that candidates have a pathway and are encouraged to pursue college degrees upon achieving their CDA.

8. Expand the existing EEC family child care orientation into the 5 hour pre-orientation recommended by the Workforce Task Force; develop and pilot the first module of EEC Orientation for the entire field.
9. Develop a basic career lattice for the early education and out of school time field by convening small workgroups to address each practice domain (family child care, group child care, and school age child care).
10. Advance the EEC Professional Development Data Management System by developing and implementing a basic staff registry to identify staff that are currently active in the field and gather current workforce data.
11. Analyze data gathered by the online Professional Development Calendar on the current state of professional development opportunities; work to develop data filters within the calendar to better analyze available data; and solicit feedback from calendar users to inform the development of a second iteration.
12. Work with the Department of Higher Education to implement the STEM pilot at 6 to 8 school age programs in 2 to 3 EEC regions and evaluate the results.
13. Identify critical resource gaps and develop FY2010 budget priorities and action plan to address those needs.

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APPENDIX A: MGL, CHAPTER 15 LEGISLATIVE REQUIREMENTS

M.G.L Chapter 15D: Section 5. Workforce development system; implementation plan requires that “The board shall develop and annually update an implementation plan for a workforce development system designed to support the education, training and compensation of the early education and care workforce, including all center, family child care, infant, toddler, preschool and school-age providers. The board shall solicit input from organizations and agencies that represent a diverse spectrum of expertise, knowledge and understanding of broader workforce development issues and of the professional development needs of the early childhood and care workforce.”

To inform the plan, the board shall consider:

1. An inventory and assessment of the current resources and strategies available for workforce and professional development in the commonwealth, including but not limited to Head Start trainings, community-based trainings, higher education programs, child care resource and referral agency trainings, state and federally funded workforce development trainings/programs, public school system trainings/credentialing, and other trainings that address the needs of those who work with children and make recommendations for coordinating the use of those existing resources and strategies;
2. Analyses using current data on the status of the early education and care workforce, including work experience, certifications, education, training opportunities, salaries, benefits and workplace standards; and
3. An assessment of the workforce capacity necessary to meet the state’s early education and care needs in the future.

In development of the plan, the board shall consider:

1. Core competencies, a common and shared body of knowledge, for all those working in the early education and care fields;
2. Streamlined and coordinated state certification, credentialing, and licensing within the early education and care fields including teacher and provider certification and licensing, the child development associate, public school teacher certification, and other program standards as appropriate for director, teacher and provider credentialing requirements;
3. A mandatory and regularly updated professional development and qualification registry;
4. Agreements among higher education institutions for an articulated system of education, training, and professional development in early education and care;
5. Approval of early education and care training programs and academic coursework, incentives for associates and bachelors programs to meet best practices and to modify curricula to reflect current child development research, and certification of trainers and teachers;
6. Coordination of existing workforce resources among public agencies, including establishing regional workforce support resources in coordination with child care resource and referral agencies;
7. A range of professional development and educational opportunities that provide appropriate coursework and degree pathways for family child care as well as center-based providers at all levels of the career ladder that are available in locations, days, and times that are accessible;
8. Credit for prior learning experiences, development of equivalencies to 2 and 4 year degrees, and the inclusion of strategies for multiple pathways for entry into the field of early education and care;
9. Recruitment and retention of individuals into the early education and care workforce who reflect the ethnic, racial, linguistic, and cultural diversity of Massachusetts families based on the current census data;

10. Incentives and supports for early education and care professionals to seek additional training and education, such as scholarships, stipends, loan forgiveness connected to a term of service in the field, career counseling and mentoring, release time and substitutes;
11. Guidelines for a career ladder or career lattice representing salaries and benefits that suitably compensate professionals for increases in educational attainment and with incentives for advancement, including a salary enhancement program;
12. Public and private resources to support the Workforce Development System;
13. A data collection and evaluation system to determine whether the workforce and professional development activities established pursuant to this chapter are achieving recruitment, retention and quality of the workforce goals;
14. Ways to recognize and honor advancements in educational attainment among early education and care professionals.

APPENDIX B: LIST OF RESOURCES

1. Massachusetts Board of Higher Education Final Report from the Commonwealth Transfer Advisory Group: <http://www.mass.edu/ABOUTUS/DOCUMENTS/CTAGREPORT.PDF>
2. Massachusetts Department of Early Education and Care Proposed Licensing Regulations: <http://www.eec.state.ma.us/licensingRegulations.aspx>
3. Massachusetts Department of Early Education and Care State Plan: http://www.eec.state.ma.us/kr_StatePlan.aspx
4. Massachusetts Department of Early Education and Care Workforce Development Plan, January 2006: http://www.eec.state.ma.us/docs/Workforce_Development_Plan_2006.pdf
5. Massachusetts Department of Early Education and Care Workforce Development Plan, June 2007: <http://www.eec.state.ma.us/docs/2007WorkforceReport%206.6.07.pdf>
6. Massachusetts Universal Pre-Kindergarten Pilot Program Evaluation: www.eec.state.ma.us/docs/MA%20UPK%20Evaluation%20Final%20Report%2012-29-08_FINAL.pdf
7. Ready for 21st Century Success: The New Promise of Public Education: The Patrick Administration Education Action Agenda: <http://www.mass.gov/Agov3/docs/Readiness%20Final%20Report.pdf>
8. Steps Forward: Recommendations of the MA Early Education and Care and Out of School Time Workforce Development Task Force: <http://www.eec.state.ma.us/docs/EEC%20OST%20WDTTaskForceFINAL.pdf>
9. Steps Forward: Recommendations of the MA Early Education and Care and Out of School Time Workforce Development Task Force Summary Brochure: <http://www.eec.state.ma.us/docs/08EECBrochure.pdf>
10. United Way Success by 6: Stair Steps to Quality: A Guide for States and Communities Developing Quality Rating Systems for Early Care and Education: www.ecpolicycouncil.org/docs/StairStepstoQualityGuidebook.pdf
11. Universal Pre-Kindergarten (UPK) Expansion and Phase-in Concept Paper: www.eec.state.ma.us/docs/UPK_Concept_Paper_mostrecentMay2008.pdf

Introduction to the North Carolina Commission on Workforce Development 2009 - 2011 Strategic Plan

The North Carolina Commission on Workforce Development began the process of developing the 2009-2011 Strategic Plan in the fall of 2008. From the beginning, it was determined that the experience of the current Committee Chairs would play a key role in the planning process. As a result, the Strategic Planning Committee was comprised of the Committee Chairs as well as other members of the Commission. The Strategic Plan was completed in three phases: (Phase I) Gathering input through the use of surveys, one-on-one meetings with agency heads, and meetings with Local Boards and their administrators; (Phase 2) Reviewing components of the plan by reviewing and prioritizing input from stakeholders and incorporating Commission members' recommendations; and (Phase 3) Drafting and developing plan by formulating the goals and objectives and refining and revising as needed. The result is the document presented here which will provide direction for the Commission during the next two years. The plan will be formally adopted at the May, 2009 meeting of the Commission.

Commission Core Beliefs

The North Carolina Commission on Workforce Development believes:

- The Commission is accountable for providing leadership in building and maintaining a quality workforce delivery system. This leadership will advocate for the policies and resources needed to strengthen the system.
- The workforce delivery system includes all agencies and organizations involved in increasing the quantity and quality of workers in the State, improving worker access to jobs and increasing worker access to information about the availability of jobs and training opportunities.
- Access to the system must be universal. The Commission will advocate for such access, identify barriers to that access, whether geographical, financial, cultural, or political, and make recommendations as how best to overcome those barriers.
- North Carolina workers and the workforce delivery system must be able to adapt quickly to the demands of the 21st Century economy and embrace continuous learning.
- Maintaining and growing a strong economy depends upon having a supply of educated and well-trained workers who possess the skills needed to make our state's businesses and industries globally competitive.
- A strong economy also depends on workers earning family-sustaining wages; therefore, the workforce system will strive to move workers into good jobs that pay good wages.
- Public institutions and public resources play a critical role in the development of an educated, well-trained workforce.
- Improvements to the workforce delivery system must focus on the needs of job seekers and employers and be based on factual, relevant and timely data.
- The JobLink Career Center System is the primary portal that directs jobseekers, workers and employers to employment and training services.

The North Carolina Commission on Workforce Development 2009 - 2011 Strategic Plan

MISSION: *To establish and guide a world-class workforce development system for North Carolina. This system will be comprehensive, integrated, relevant and effective. It will produce well-educated, highly skilled workers who perform at high levels and work in economically viable enterprises that provide good jobs at good wages.*

GOALS

1. To effectively address the needs of jobseekers, workers and employers by providing oversight and advocacy for the efficient use of all available resources, including stimulus funds from the American Recovery and Reinvestment Act (ARRA) of 2009.

2. To strengthen and expand our knowledge base, using policy and research, to advance skill development and job creation for the long-term needs of the State while responding to the current economic crisis.

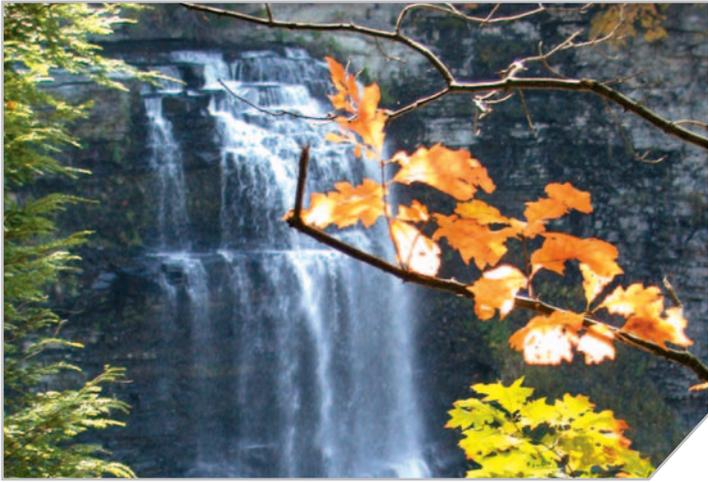
3. To promote the services of the workforce delivery system to all citizens and stakeholders using a comprehensive communication plan.

OBJECTIVES

- 1.1 Ensure a stronger, more integrated One-stop System that easily moves adults between work, education and training, and career advancement.
- 1.2 Monitor the use of workforce development-related stimulus funds to ensure that monies are being used quickly and effectively with substantial accountability and transparency.
- 1.3 Measure how well the workforce system delivers quality service to an increased number of adults, dislocated workers and youth.
- 1.4 Advocate for the development of local policies that expand needs-related services to dislocated workers with a focus on the coordination of WIA and TAA services.

- 2.1 Analyze the impact of the current economic crisis on the projections in the 2007 State of the North Carolina Workforce Report and update the Report to incorporate new data.
- 2.2 Establish a system for the on-going evaluation of key Commission sponsored initiatives, including the Incumbent Worker Program, Regional Collaboration Partnerships, and the Sector Strategies Initiative.
- 2.3 Encourage innovative approaches to job creation and skill development to support economic development.
- 2.4 Work with Local Workforce Development Boards, elected officials and stakeholders to design local policies that promote the creation of good jobs.

- 3.1 Communicate the Commission's vision for the workforce delivery system and have that vision reflected throughout the Division of Workforce Development, the Local Area Workforce Development Boards and the JobLink Career Centers.
- 3.2 Create a public awareness initiative that provides citizens easy access to information regarding the workforce delivery system.
- 3.3 Promote the JobLink Career Centers to all job seekers, workers, and employers, including those who traditionally have not utilized the workforce delivery system.
- 3.4 Review, analyze and implement the recommendations of the Valuing Education Task Force.



Creating a Competitive
Workforce Advantage
Strategic Workforce Development Plan
Oswego County New York



Creating a Competitive Workforce Advantage: Strategic Workforce Development Plan

The Vision: Oswego County will be a vibrant, economically stable community with a competitive workforce advantage that includes: forward thinking community leaders who care about and are engaged in workforce issues; businesses that invest in workforce education and training; economic development strategies that attract and maintain a diverse business mix; infrastructures that support employers (roads, water, electricity) and workers (housing supply, childcare, transportation); an articulated educational system; clearly defined and accessible career pathways in important industry clusters; and a ready, willing and able workforce.

The Mission: The mission of the Workforce Development Board of Oswego County is to attract, develop and maintain a qualified workforce for the Oswego County community, to assist in economic development by convening community leaders to engage in strategic planning and facilitating dialogue to educate and train the workforce needed by today's and tomorrow's businesses.

The "World Out There": During the 2004 Presidential Election, the workforce and investment in it was barely mentioned. The gap is widening between economic strata of our nation. The middle class is vanishing. Workforce investment is no longer about job training. It's about education and skills development. The past three years have produced manufacturing's worst job recession since the Great Depression. The U.S. has lost nearly 3 million manufacturing jobs, more than 15% of its factory workforce. Globalization is squeezing factories: across the nation rural factories have cut 4.6% of their payrolls last year. The U.S. is competing with China in manufacturing and India in service jobs. Both countries have more people and graduate more people from college each year (particularly in math and science). According to one household accessories manufacturer CEO, their company's strategy is to combine Chinese costs, Japanese quality, European design and American marketing. Occupations with the largest expected growth in the next ten years are in wholesales trade, construction, accommodation/food services, transportation/warehousing, professional/scientific/technical, healthcare/social assistance and employment services. "Companies tend to locate near one another, including competitors, because external advantages, access to labor, and knowledge outweigh the disadvantages that competitors may steal their employees or find out their trade secrets" (National Governor's Association). For the creative class and Generation Xer's, the quality of place is replacing the number of available jobs as a benchmark.



The State of Our Workforce: Oswego County's population is expected to remain stable over the next 30 years, while the availability of qualified workers will become a significant concern. The population will trend similarly to the rest of the nation with growth of the group nearing or ready for retirement. The number of Generation Xer's is half that of boomers with many not wanting to remain in the area after graduation. The good news is that the participation rate of women in the workforce is increasing, as are the numbers of new businesses started by women. Most (80%) of those working in Oswego County reside in Oswego County and the rest commute in from surrounding counties. Two-thirds of the workforce is employed full-time. Employers consider nine out of ten of their workers to be permanent employees who may need additional technical skills training in the area of management, organizational, leadership and motivational skills. The vast majority of our companies (97%) train their current employees in-house with other training methods used less often. However, local businesses may not be totally aware of the job specific training services that the workforce and higher education systems can provide.

Industry Clusters and Human Resource Challenges: The Workforce Board, as a result of a summit held in February 2004 and many focus groups with community leaders, has identified four industry clusters and the attracting and retaining the next generation talent pool as the main focus of its strategic plan. We also agreed to pay attention to the Metropolitan Development Association's targeted industry clusters of Environmental technology, Biosciences, Digital and electronic devices, Precision metal working, Packaging, Knowledge/learning industry. The four industry clusters specific to Oswego County are Energy, Health Care, Hospitality and Leisure, and Manufacturing with specific emphasis on Agribusiness. The Workforce Board has made the purpose of the strategic plan to address the human resource challenges of the local industry cluster. The Human Resource Challenges to be addressed are flexibility of the workforce, workforce attraction and retention, skills development, the aging of the workforce and rapid advances in technology.



The **Energy Industry** Cluster includes any business or occupation relating to the energy industry from research and development to production and distribution, from nuclear to hydrogen. Focus group participants pointed out that hydrogen should be viewed as a future energy source; there is no national, state or regional policies guiding the energy industry; energy transmission out of Oswego County is a major factor; unless nuclear waste issues are resolved, no new plants will be built; and if we want to get away from oil dependency in US, nuclear energy is the answer, but not necessarily in Oswego County.

The **Hospitality/Leisure Industry** Cluster includes restaurants, hotels/motels, parks and recreational facilities, museums, fishing charters and bait shops. Focus group participants noted that while the aging/older workers and disabled populations may be a challenge to other industry clusters those demographics are an asset to this industry cluster.

The **Manufacturing Industry** Cluster includes precision metalworking, wire drawing and stranding, food packaging and printing, to name a few. Manufacturing agri-businesses are those that take an agricultural product and turn it into another product, e.g. Empire Fresh Cuts, Birds Eye and the Ethanol Plant. Industry representatives discussed the area's quality of life and education system as great assets. They also pointed out a need for more promotion of the area for people's ability to merge avocation and vocation.

The **Health Care Industry** Cluster includes the traditional idea of doctors and nurses but extends well beyond that to phlebotomists, pharmaceutical sales people, uniform makers and physical therapy. Health Care professionals commented that Oswego County has already begun to address some of the industry's needs but that a more coordinated approach would be a step toward improvement.

The **Talent Pool** is Generation X, those born between 1961 and 1981. This age group places more importance on the quality of the community than the availability of jobs. Young talent also behaves regionally, that is, some of the best assets of the community lie outside the immediate place of residence. They look for an entrepreneurial environment and non-traditional opportunities for continuing education.



The Strategic Plan: The Workforce Board agreed to utilize the strategic planning process to address the human resource challenges of each industry. Each focus group was responsible for identifying ways of mitigating the human resource challenges and developing 3-5 strategies for achieving the goals of attracting, developing and maintaining a work force for Oswego County specific to their target group. The Workforce Development Board staff then identified some implementation strategies that can be utilized to meet the challenges.

Creating a Competitive
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Human Resource Challenges

Due to projected retirements, the demand for skilled workers will outpace supply through 2014.

The short term nature of outages makes it difficult to recruit workers to meet demand.

There is a decreasing demand for construction building trades but an increasing demand for on-site and skilled millwrights, fitters, carpenters, and electrical workers.

Basic math and science skills continue to be very important for those entering this business.

Workers recruited from outside the area don't tend to stay for very long, thus exacerbating worker shortages.



Strategic Priorities

To develop relationships between the educational community and businesses in the Energy Industry.

To develop a better understanding of the Energy industry, its needs and potential.

To develop a more flexible workforce that is responsive to schedule of outages.

To develop and prepare a local workforce to meet industry needs.

To support a strong academic foundation in math, science and other basic skills for students to keep up with rapid scientific and technological advances.

Implementation Strategies

Scan curricula for math and science content related to energy industry.

Convene meetings between educators and industry representatives to develop a better understanding of the energy industry.

Convene a meeting with industry representatives and educational system to discuss curriculum & training needs and the value of teaching basic/universal workplace skills to future workers.

Facilitate the creation and distribution of a Timed Outages Schedule to ensure workers have a more stable work schedule and that the industry has enough workers.

Provide for the completion of a career ladder map for the energy industry.

Provide for teachers to work in industry (paid sabbatical) with the intent of developing a more realistic curriculum.

Evaluate curriculum changes.

Evaluate the timeliness of filling open positions.

Human Resource Challenges

The lack of recognition that this industry is a viable career field for all levels of education.

Our area is viewed as a summer destination only.

Industry workforce lacks general hospitality training and knowledge about the area's assets.

Industry workforce lacks problem solving, customer service, math and multi-lingual skills.

Small businesses and new start-ups have a low tolerance for risk.



Strategic Priorities

To develop recognition of the industry as a viable career for a variety of educational backgrounds and demographics.

To better utilize older/disabled/minority workers to meet demand shortages.

To promote the "4 seasonality" of the area.

To develop an entrepreneurial environment in the area.

To make better use of technology to promote the area and industry.

Implementation Strategies

Scan and identify the businesses in the industry and develop a directory/web-site.

Convene employers in the industry to exchange information and develop workforce utilization plans.

Facilitate and provide for entrepreneurial training and small business startup training to assist in developing risk tolerance.

Provide for the completion of a career ladder map for the industry.

Facilitate internships between colleges and businesses to keep students here or return after graduation.

Facilitate and provide for a hospitality training programs customized to Oswego County to include niche products and services, what to do and see.

Human Resource Challenges

A good share of the workforce does not prefer the shift work required in this industry.

There is a perception that the wages paid locally in this industry are low compared to other areas of the country.

Rapid changes in technology reduces need for as large a workforce as in the past.

The industry demands continuous training and retraining and the workforce needs to be flexible and participate.

The industry's workforce needs its skills upgraded in graphic interpretation, problem solving and communication and well as core or soft skills.

Promotion of area, its resources, and job offers of vocation/avocation positions are not well known.

There is a lack of entrepreneurial spirit in the industry.

Strategic Priorities

To promote the industry and the many job possibilities it offers.

To support a strong academic foundation in math, science and other basic skills for students to keep up with rapid scientific and technological advances.

To develop networks to promote the area, its resources and its employment opportunities.

To develop an entrepreneurial environment in the area.



Implementation Strategies

Scan and identify all manufacturing agribusinesses in Oswego County.

Scan and identify all businesses in Oswego County that correspond with the MDA manufacturing clusters.

Convene meetings with community partners to distribute literature, & create website about area and its attributes.

Facilitate internships between colleges and businesses to keep students here or return after graduation.

Provide for the completion of a career ladder map for the manufacturing industry.

Facilitate and provide for entrepreneurial training and small business startup training.

Facilitate and provide for grants, incentives, for upgrading skills training.

Human Resource Challenges

There is a shortfall of a workforce infrastructure (daycare, housing and transportation) to support the industry needs.

The perception and recognition of industry is narrowly focused to few occupations.

The schedule and intensity of the professions in the industry cluster are a challenge.

The workforce (particularly nurses) is aging out and there are reduced numbers entering the field.

Basic math and science, leadership and management skills are required for those entering this business.

There is a lack of business start up basics.

Strategic Priorities

To build the infrastructure to support the industry needs.

To improve and expand the community's attitude/perception of the healthcare industry as a profession.

To align academic programs with the needs of the industry.

To improve the business start up and management skills of the industry.



Implementation Strategies

Scan other communities to find out how they have addressed the infrastructure issue.

Convene a math/science/healthcare industry seminar to educate young girls about the profession.

Facilitate alliances between the existing healthcare agencies and educational institutions leading to expanded curriculum and career planning.

Facilitate customized training programs for RN's to address immediate shortage in that occupation.

Provide for the completion of a career ladder map for the industry.

Provide small business start up training specific to the healthcare industry.

To attract and retain the young talent pool in Oswego County.

Human Resource Challenges

There were half as many Generation Xer's born than boomers so there is less of a recruitment pool of potential employees.

The young talent pool tends to select a place to live first and then finds employment.

The young talent pool is skeptical, savvy, self-reliant and swift. Members change jobs frequently and refuse to be confined to traditional work schedules. Members want a voice in leading their work and community environments. They are heavy users of technology for communicating and gathering information.

The young talent pool learns in different ways than previous generations (internet, television) and look for non-traditional methods of continuing education.

Strategic Priorities

To create a community in which young people will want to live.

To develop an internet based media outlet for young talent to gather information and network.

To develop networks for young talent.

To promote nontraditional work arrangements.

To increase the availability and diversity of continuing education opportunities.

To support young talent moving into leadership positions in the community.



Implementation Strategies

Scan other communities to identify methods of attracting and retaining young talent.

Convene leaders of community organizations to develop a plan for moving young talent into leadership positions on nonprofit boards.

Convene media leaders to discuss and develop an e-zine targeted to young talent.

Facilitate and provide for a Creative Council for young talent to network.

Facilitate and provide for a bi-annual celebration of the young talent pool.

Facilitate internship programs in all industry clusters with area colleges.

Provide leadership skills training for young professionals via the Leadership Oswego County program.

Provide information and training to area businesses on how alternative work schedules can assist in getting to a better bottom line.

Provide assistance to economic development opportunities for recreation and third spaces.

Next Steps:

This strategic planning process represents the first phase in creating a Competitive Workforce Advantage in Oswego County. The Workforce Development Board has worked with community leaders and identified the industry clusters with potential for growth and sustainability. In the process, we have also identified the human resource challenges that must be addressed if we are to be successful in growing those industry clusters. In addition, we have made recruiting and retaining a young talent pool a top priority.

The plan is complete. Now the work begins. Yet the task of creating a Competitive Workforce Advantage in Oswego County is not the Workforce Development Board's alone. The WDB will form alliances with business, industry, educational systems and government to implement this plan. We will shepherd the activities designed by the industry groups to promote collaborative solutions and programs that will create our advantage in the global economy. The WDB will continue to provide oversight and assistance and to share best practices with the workforce development system. Along the way we will be asking for assistance in assessing the successfulness in implementing the plan. We will create an atmosphere that fosters a culture of excellence in our workforce system by tracking, analyzing, and reporting our successes.



Finally, we would like to thank the many people and organizations who support workforce development in Oswego County. We want to recognize the Oswego County Legislature, individual workforce board members, and the community leaders, partners, and young talent who participated in this strategic planning process.

We recognize that all of these groups and individuals will be called upon to refine and implement this plan, as well as to evaluate our collective success in creating a competitive Workforce Advantage in Oswego County. We are up to the challenge and together we will make a difference!



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Earnie Pietrykowski
Birdseye Foods, Inc.

Connie Smith
Trathen Logging Co., Inc.

Donald Unger
Adecco Employment Services

Joseph Camerino
Oswego County BOCES

Dennis Golladay
Cayuga Community College

Stephen Lyman
Oswego County

Charles Rinoldo
Millwrights Local 1163

L. Michael Treadwell
Operation Oswego County Inc

Alan Horna
Oswego Wire

John Mosher
Novelis Specialty Products

Bruce Phelps
Fulton Tool Company, Inc.

Dave Thomas
Peppercorns, Inc.

Ed Vayner
Ed Vayner & Associates

Eileen Ensworth
Integrated Community Planning of Oswego Co.

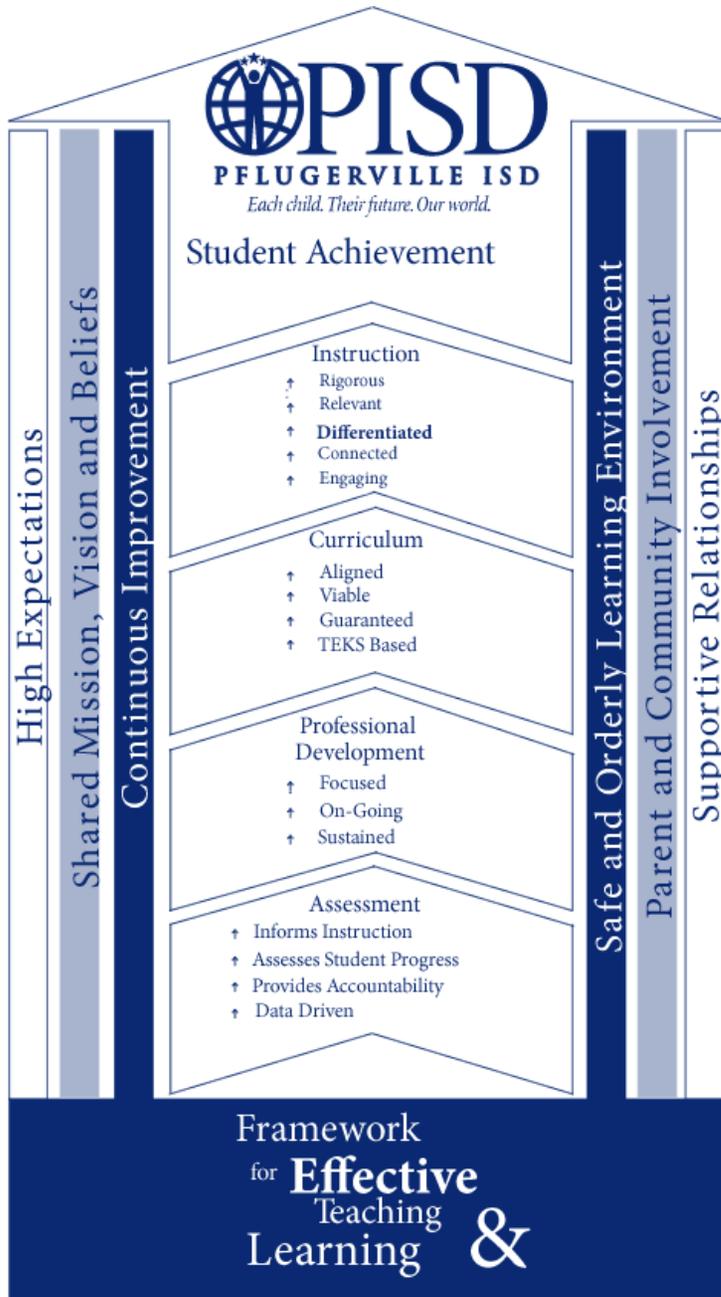
Paul Kurtzman
Oswego Industries, Inc.

Colleen McBride
New York State Department of Labor

Joe Roszak
Oswego County Opportunities Inc.

Donald Watson
VESID





Career and Technical Education

Strategic Plan

2008-2010

“Our mission at Pflugerville Independent School District is to provide a quality education with a commitment to excellence by facilitating learning in a safe and nurturing environment.”

Pflugerville Independent School District Career and Technical Education

Mission of PISD Career and Technical Education

To develop partnerships and programs providing each student with the skills and knowledge to excel in a diverse, global society for life long success.

Vision of Career and Technical Education

The vision of the PISD Career and Technical Education program is to provide a comprehensive program that will give students the opportunity to excel and advance their skills and knowledge to be prepared for post secondary endeavors through rigorous curriculum, relevant experiences and lasting relationships.

Program Goals in Career and Technical Education:

- Offer pathways to postsecondary transitions
- Provide career development
- Link to business and industries of the region
- Reflect the diversity of the district enrollment
- Embrace students of all learning abilities
- Provide College Tech Prep connections
- Provide ability to earn certifications
- Offer leadership opportunities through CTE student organizations

Excellence in Career and Technical Education

Pflugerville ISD Career and Technical Education Strategic Improvement Plan 2008-2010

CTE Strategic Goal 1	Offer Pathways to postsecondary transitions.
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Strategic Objective 1.1	The CTE administrator will assume all necessary leadership duties to insure pathways to postsecondary transitions.
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Activity	Staff Responsible	Resources Needed Human/Material/Fiscal	Timeline
Create standardized, sequenced, project based, career focused CTE curriculum for all CTE courses offered in PISD	CTE Director CTE Coordinator CTE Teachers	Teacher stipends and/or subs	08-09 and 09-10
Align all CTE curricula –horizontally and vertically	CTE Director CTE Coordinator CTE Teachers	Teacher stipends and/or subs	08-09 and ongoing
Analyze student numbers in CTE classes to ensure they meet required/suggested class sizes	CTE Director CTE Coordinator	Staff time	08-09 and on-going
Keep CTE District webpages current and updated	CTE Director CTE Coordinator	Staff time	On-going
Ensure that secondary campus website has links to CTE District webpage	CTE Director CTE Coordinator Campus Principals	Staff time to work with campus web developer	Fall 08 and on-going

Evaluation Criteria of the Objective:
<ul style="list-style-type: none"> • Completed, aligned CTE curricula • Completed report of all CTE teachers, number of students, and funds generated by each teachers' contact hours • CTE website current information

CTE Strategic Goal 1	Offer pathways to postsecondary transitions.
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Strategic Objective 1.2	All CTE course offerings will reflect comprehensive pathways to postsecondary transitions.
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Activity	Staff Responsible	Resources Needed Human/Material/Fiscal	Timeline
Align all clusters/programs of study into coherent sequences identifying any certifications or college credit opportunities	CTE Director CTE Coordinator CTE Teachers	Staff time and teacher stipends	08-09 and 09-10
Offer entry level/exploratory CTE courses in middle school for high school elective credit	CTE Director MS Executive Director	Staff time and teacher stipends	09-10 and on-going
Actively promote higher level courses that receive articulated college credit through Tech Prep and promote dual credit CTE course opportunities	CTE Director CTE Coordinator CTE Teachers Counselors	Staff time; marketing materials	08-09 and on-going
Use the <i>Career Preparation</i> , work-based learning, courses as capstones for students who have completed a coherent sequence and/or received an industry certification	CTE Director CTE Coordinator, Teachers and Counselors	Staff time; marketing materials	08-09 and on-going
Closely analyze the Capital Area labor market information before implementing any new courses and or programs of study	CTE Director	Staff Time	08-09 and on-going
Create a “Grow Your Own Teacher” program in PISD where Ready, Set, Teach students are offered a future PISD teacher contract	CTE Director Human Resources	Staff Time	08-09 school year

Evaluation Criteria of the Objective:
<ul style="list-style-type: none"> • Documentation of all programs of study and coherent sequences providing certification opportunities and/or college credit • Data on students receiving certifications by program area, number of students earning Tech Prep College Credit, number of students taking CTE courses for Dual Credit • Higher enrollment of students in upper level CTE courses including Career Preparation as a capstone measure

CTE Strategic Goal 1	Offer pathways to postsecondary transitions.
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Strategic Objective 1.3	CTE and counselor staff development offerings will reflect comprehensive pathways to postsecondary transitions.
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Activity	Staff Responsible	Resources Needed Human/Material/Fiscal	Timeline
Train all CTE teachers in integrated, project-based instructional strategies	CTE Director CTE Coordinator	CTE funds for professional development, staff time, subs	08-09 and on-going
Provide CTE teachers opportunities to discuss with secondary counselors CTE course offerings and promotion of coherent sequences	CTE Director CTE Coordinator Counselor Supervisor	Staff time	08-09 and on-going
Students will develop four year academic career plans	Counselors and Counselor supervisor	Staff time	On-going

Evaluation Criteria of the Objective:
<ul style="list-style-type: none"> • Evidence of project based-lesson plans and instruction • Evidence of counselor and CTE teacher dialogue and discussion • Evidence of Four-Year plans developed and updated yearly

CTE Strategic Goal 1	Offer Pathways to postsecondary transitions.
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Strategic Objective 1.4	CTE facilities and equipment will reflect comprehensive pathways to postsecondary transitions.
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Activity	Staff Responsible	Resources Needed Human/Material/Fiscal	Timeline
Incorporate computer technology into all CTE classrooms	CTE Director, CTE Coordinator Technology Department IT Division	Funding	2008-09 thru 2009-10
Provide appropriate facilities for CTE courses	CTE Director, Campus Principals	Funding	2008-09 thru 2009-10
Provide commercial kitchen for culinary arts programs	CTE Director, Campus Principals, Facilities	Funding	2009-10
Closely analyze current and future Capital Area labor market information	CTE Director CTE Coordinator	Staff time	2008-09 and on-going

Evaluation Criteria of the Objective:
<ul style="list-style-type: none"> • CTE lesson plans that reflect technology integration • Facilities for professional culinary arts • Review of classroom/labs for needed updates • Assurance of CTE offerings meeting needs of labor force

CTE Strategic Goal 2	Provide career development
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Strategic Objective 2.1	Promote the Bridges.com website for Guidance Central for career and life-long planning for post-secondary options students and parents.
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Activity	Staff Responsible	Resources Needed Human/Material/Fiscal	Timeline
Provide training workshop for secondary teachers and counselors on Bridges.com for developing integration into lessons	CTE Director and Counselor Supervisor	Staff time	Annually in early spring semester.
Provide students opportunities for attending College and Career Fairs within and outside of district	CTE Director CTE Coordinator CTE Teachers	Staff, subs, transportation	On-going
Promote speakers to the classroom from business/industry sectors, as well as post-secondary institutions	CTE Director CTE Coordinator CTE Teachers	Staff time; coordinate with communications dept.	On-going
Promote idea of developing PISD Career Fair that will make connections with CTE courses, College and Careers	CTE Director CTE Coordinator CTE Teachers Counselors	Staff time; location in district,	Begin Fall 08 for Jan/Feb 09 Event

Evaluation Criteria of the Objective:
<ul style="list-style-type: none"> • Schedules workshop and attendance roster for Bridges.com • Student data on attendance at College and Career Fairs • Teacher lesson plans reflecting speakers to the classroom from business/industry and postsecondary • Development of Course/College/Career Fair within the district

CTE Strategic Goal 2	Provide career development.
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Strategic Objective 2.2	2.2 Integrate the concept and emphasize the importance of career and life-long planning for postsecondary options throughout the district while promoting Bridges.com Guidance Central to PISD faculty and administration.
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Activity	Staff Responsible	Resources Needed Human/Material/Fiscal	Timeline
PISD personnel will help students create a Bridges electronic career portfolio in eighth or ninth grade and demonstrate the importance of maintaining the lifetime portfolios.	Counselors, Transition Counselors, Counselor Supervisor	Staff time	Annually in August and September
Incorporation of Bridges.com into lesson on careers, postsecondary education, and employability skills	CTE Teachers	Staff time	On-going
Update Career Development webpages on CTE District Website	CTE Director CTE Coordinator	Staff time	On-going

Evaluation Criteria of the Objective:
<ul style="list-style-type: none"> • Bridges usage reports • Teacher lesson plans to show integration of Bridges.com • Webpage of Career Development updated

CTE Strategic Goal 3	Link to business and industries of the region
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Strategic Objective 3.1	Explore new opportunities for business and industry partnerships
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Activity	Staff Responsible	Resources Needed Human/Material/Fiscal	Timeline
Develop partnerships with local businesses for all CTE programs of study	CTE Director CTE Coordinator CTE Teachers	Staff time	On-going
Analyze Capital Area and Austin Labor market information for sustainability of high school CTE programs and planning for new programs	CTE Director and CTE Teachers	Staff time	08-09 school year
Identify and utilize internship opportunities for CTE students	CTE Director and CTE Teachers	Staff time to market opportunities	On-going
Actively promote the value of CTE to the local community and to the global economy	CTE Director CTE Coordinator CTE Teachers	Staff time and program marketing	On-going
Ensure campus counselor webpage link to CTE Career Development webpage	CTE Director CTE Coordinator Campus Counselor	Staff time	Fall 2008 and on-going

Evaluation Criteria of the Objective:
<ul style="list-style-type: none"> • The number of new CTE partnerships • Number of students in internships • Presentations of PISD CTE; brochures

CTE Strategic Goal 3	Link to business and industries of the region.
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Strategic Objective 3.2	Promote business and industry partnerships to students.
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Activity	Staff Responsible	Resources Needed Human/Material/Fiscal	Timeline
Actively promote the available student certifications and internships with students, parents, and business and industry in PISD	CTE Director, CTE Coordinator CTE Teachers Counselors; Transition Counselors; Counselor Supervisor	Staff time	On-going
Actively promote the CTE program and its value to the local community	CTE Director; CTE Teachers	Staff time	On-going

Evaluation Criteria of the Objective:
<ul style="list-style-type: none"> • Lesson plans reflecting providing information to students • Parent/student meetings on creating college connections through CTE as well as AP, Dual Credit, etc.

CTE Strategic Goal 4	Reflect the diversity of the district enrollment
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Strategic Objective 4.1	Actively promote the CTE program as meeting the needs for ALL students
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Activity	Staff Responsible	Resources Needed Human/Material/Fiscal	Timeline
Actively recruit students and promote the diverse CTE courses that fit the needs of diverse students	CTE Director CTE Coordinator CTE Teachers Counselors	Staff time	On-going
Take campus counselors on a “tour” of CTE classrooms to demonstrate what happens in each CTE program and what skills students need in order to be successful in the courses.	CTE Director CTE Coordinator CTE Teachers	Staff time	On-going

Evaluation Criteria of the Objective:
<ul style="list-style-type: none"> • CTE enrollment reports that reflect gender, ethnicity, at-risk, etc. • PBMAS Annual Reports • Counselor CTE tours

CTE Strategic Goal 5	Embrace students of all learning abilities.
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Strategic Objective 5.1	Demonstrate that CTE courses are for ALL learning abilities and actively recruit CTE students of all learning abilities.
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Activity	Staff Responsible	Resources Needed Human/Material/Fiscal	Timeline
All CTE teachers will actively recruit students	CTE Teachers	Staff time	On-going
All student recruiting procedures currently in place will continue and be aligned across the district in their involvement in student recruiting efforts.	CTE Director CTE Coordinator CTE Teachers	Staff time	Annually in early spring semester
Develop a document for counselors of what happens in each CTE program and what skills students need in order to be successful in the courses	CTE Director CTE Coordinator CTE Teachers	Staff time	On-going
Actively involve current students in recruiting new students.	CTE Teachers	Staff time	On-going
Hold an “Open House” and invite students and counselors in to see what goes on in the CTE classrooms and labs	CTE Director CTE Coordinator CTE Teachers	Staff time	Annually in early spring semester

Evaluation Criteria of the Objective:
<ul style="list-style-type: none"> • Campus/district reports that reflect the number of honors students, special education students, and at-risk students currently enrolled in CTE courses. • Annual PEIMS report. • Number of students enrolled or planning to take a CTE coherent sequence of courses in a program of study • Reports of class counts

CTE Strategic Goal 6	Provide college tech prep connections
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Strategic Objective 6.1	Encourage students to enroll in tech prep courses and to redeem the college credits at local community colleges
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Activity	Staff Responsible	Resources Needed Human/Material/Fiscal	Timeline
Promote tech prep to parents by showing them the “value” of tech prep	CTE Director CTE Coordinator, Teachers, Counselors, Transition Counselors, Counselor Supervisor	Staff time; parent letter	Annually
Recruit students to begin a coherent sequence of courses in 8 th or 9 th grade so they can earn the maximum number of tech prep college credits within a program of study	CTE Teachers, Counselors, Transition Counselors, Counselor Supervisor	Staff time	Early spring semester, annually
Encourage students to enroll in tech prep courses and enroll into Tech Prep “CATEMA” system with ACC and the Capital Area College Tech Prep Consortium	CTE Teachers, Counselors, Transition Counselors, Counselor Supervisor	Staff time	Fall and Spring semesters annually
Keep Tech Prep Website current on CTE webpage	CTE Director CTE Coordinator	Staff time	On-going

Evaluation Criteria of the Objective:
<ul style="list-style-type: none"> • Number of students enrolled in a coherent sequence of courses • Number of students enrolled in tech prep courses • Number of students enrolled in “CATEMA” system for Tech Prep Credits meeting the college requirements for college credit • Number of students redeeming tech prep credits at community colleges

CTE Strategic Goal 7	Ability to earn industry certifications.
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Strategic Objective 7.1	CTE students, teachers, parents, and counselors will understand the value of industry certifications.
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Activity	Staff Responsible	Resources Needed Human/Material/Fiscal	Timeline
Promote the available student certifications and their monetary value with students, parents, and business and industry in PISD	CTE Director CTE Coordinator CTE Teachers Counselors Transition Counselors	Staff time	On-going
Research additional certification opportunities relevant to PISD students, including other certifications for first and second year CTE students.	CTE Director CTE Coordinator CTE Teachers	Staff time	On-going

Evaluation Criteria of the Objective:
<ul style="list-style-type: none"> • The number of students taking certification assessments in each program area • The number of students receiving certifications in each program area

CTE Strategic Goal 7	Ability to earn industry certifications.
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Strategic Objective 7.2	Establish procedures for students taking certification tests.
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Activity	Staff Responsible	Resources Needed Human/Material/Fiscal	Timeline
Provide avenue for students to take certification assessments where applicable	CTE director	Staff time	08-09 school year
Include information on courses that have certifications in the course guide as part of the course description.	CTE director	Staff time	08-09 school year

Evaluation Criteria of the Objective:
<ul style="list-style-type: none"> • Number of students who qualify and take certification assessments • Federal report submitted on certification attainment of the district • Course guide descriptions for CTE that reflect certification information

CTE Strategic Goal 8	Offer leadership opportunities through CTE student organizations (CTSO)
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Strategic Objective 8.1	Encourage both students and CTE teachers to participate in the leadership events and annual competitions of the student organizations
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Activity	Staff Responsible	Resources Needed Human/Material/Fiscal	Timeline
Investigate possibility of offering a stipend to CTE teachers with an active student participation in area/state and national competitions (if not currently in place)	CTE Director, Principals, HR Executive Director	CTE funds	08-09 school year
Identify all CTSO student opportunities and enrollment	CTE Director CTE Coordinator CTE Teachers	Staff time	On-going
Encourage students to participate in CTSO events	CTE Teachers	Staff time, travel funds	On-going

Evaluation Criteria of the Objective:
<ul style="list-style-type: none"> • New active CTSO campus organizations • CTSO growth • Stipend established for CTSO sponsors who engage students at the various levels of competition • Students competing at each level of competition, area, state or national

Planning Committee and Advisory Council Membership include representatives from the following:

- Business and Industry
- Workforce Labor Organizations
- Higher Education
- Government
- Tech Prep
- ESC Region XIII
- Students
- Parents
- Academic Teachers
- CTE Teachers
- Special Needs
- Counselors
- Administration



SOUTH CAROLINA CHAMBER *of* COMMERCE

COMPREHENSIVE EDUCATION AND WORKFORCE DEVELOPMENT STRATEGIES AND PLANS FOR SOUTH CAROLINA

Summary of a Presentation to the Senate Education Committee by Jim Reynolds, Chair
of South Carolina Chamber of Commerce Education Committee
March 11, 2009

The business community, working in collaboration with education leaders, advocates a comprehensive approach to education and workforce development that covers the spectrum of K-12, higher education and adult workforce training.

- From 2010 to 2030 jobs in South Carolina will grow by 16% while the traditional labor pool available to fill these jobs will grow only 7% based on current trends – a 9% gap that equates to 200,000 jobs without people by 2030.
- 85% of jobs require education beyond high school – technical college, four year college or technical training.
- If South Carolina's high school graduation rate matched the highest rate in the nation starting now, by 2025 the state's workforce will still be 120,000 people short.

South Carolina must prepare the pipeline through K-12 and higher education and also re-engage adult workers who are under-skilled and underemployed. Listed below are the key strategies identified by business and education leaders to ensure a competitive workforce over the next twenty years.

1. Invest in early childhood education to ensure students are prepared to succeed when they enter school.
2. Through the Education and Economic Development Act, known as Personal Pathways to Success, students and adults see the relevance of education to career choices and goals.
 - Career counselors guide individual graduation plans for all students beginning in the eighth grade. Students choose a cluster of study aligned with their career goals and plan courses to complete a major by graduation. Parent participation in the planning sessions is running 70% across the state, a dramatic increase in parent involvement. One mother in the Charleston area told the counselor: "This is the first time I have been called to the school when it was not a discipline problem. Thank you for helping my boy see a future for himself."
 - At Risk programs, proven to keep students on schedule to graduate, have been implemented in every high school in the state. In 2008, 21,000 students were enrolled in the programs. Two of the programs, Star Academy and Jobs for America's Graduates, have achieved a 90%+ success rate in keeping high risk students in school and moving to the next grade.
 - Dual credit courses provide a seamless transition to higher education. There are 11,000 high school students in the state enrolled in dual credit courses.
 - Twelve Regional Education Centers engage employers with students and adult workers aligned to economic development strategies in their regions. Using the

Connect2Business web-based platform found at www.scpathways.org employers are able to provide job shadowing and internships to students. At the same site, adult workers can access tools to explore careers, education and training and look for jobs. In February, public library staffs across the state were trained on Connect2Business to help the large influx of adults using library computers to search for jobs. The www.scpathways.org site, free to all in South Carolina, can connect people without jobs to the jobs without people.

- The Personal Pathways IT platform that includes the College and Career Planning System, the electronic Individual Graduation Plan, Connect2Business and Kuder Journey for Adults provides web-based education and career planning for students, parents, educators and adult workers. This data platform also provides data analysis to support economic development planning by county and by region.
3. The Technical College System connects adults to education, skills and jobs through its associate degree and certificate programs as well as Continuing Education courses. In addition, the following targeted programs partner with employers to get adults trained and into high need jobs.
- Through the Registered Apprenticeship Office at the SC Technical College System, employers are helped to set up federally approved apprenticeships for their employees improving recruiting, retention, productivity and quality. South Carolina is adding one new program a week and is starting to close a large competitive gap with neighboring states.
 - Through QuickJobs programs, technical colleges identify jobs that are in high demand and develop 3-6 month training programs in which qualified adults can gain the skills to fill the jobs with local employers. There are four pilot sites for this program and it needs to be expanded statewide.
 - Retool Carolina is designed to retrain existing workers for higher skill jobs to keep existing industries competitive and to attract new businesses to the state that require a higher skilled workforce. This program needs to be funded and implemented.
 - South Carolina's Adult Education system does a good job with the adults it enrolls awarding approximately 6,000 GED's per year. The state needs to be awarding 20,000 GED's per year and those GED's should be a seamless entry to education and training for higher skilled jobs. Having Adult Education more closely tied to the Technical College System is an important step in achieving that goal.
4. Four Year Colleges and Research Universities provide a foundation for the knowledge economy.
- The Endowed Chairs Program is a long-term investment in building research capacity partnered with private industry that can commercialize inventions and patents to create jobs in South Carolina. It is well designed, is beginning to show results and needs long-term commitment and funding.
 - Bridge and Reverse Bridge programs between technical colleges and four year colleges and universities enable students to acquire technical skills required by employers and liberal arts critical thinking skills so important in the knowledge economy. The IT industry highlights the importance of this blended education pathway.
 - South Carolina needs to expand access to needs based tuition assistance. The state does a good job with merit based assistance through the lottery scholarships. Many students needing to go to college cannot afford to continue their education

and as we re-engage the adult workforce in higher education, it is important that the state find ways to make higher education financially possible for many more people.

5. The State Workforce Investment Board working through the Workforce Development Office of the Department of Commerce has established a statewide strategic plan that encourages the local WIB's to increase emphasis on training and upgrading skills of the adult workforce served through the federal Workforce Investment Act. Working through One-Stops and in partnership with Technical Colleges, Adult Education, and community organizations, WIA is providing training for under and unemployed adults and youth to fill skill gaps and prepare the workforce for recovery. Training is focused on demand jobs such as healthcare, advanced manufacturing, nuclear, and other local cluster initiatives.
 - From July 2005 through June 2008, adult participation in WIA increased 72%. During this same time period, the number of adults receiving training in WIA increased 47%. Youth participation in WIA experienced a 5% increase over the three-year period.
 - A signature program of the State WIB is the WorkKeys Career Readiness Certificate whereby adults and students can certify to employers their competence in reading and math skills needed on the job. Over 70,000 career readiness certificates have been issued in South Carolina, the third highest in the nation. More information about the program and about a free skill improvement curriculum can be found at <http://www.workforcesouthcarolina.com/>.
 - There is a need to align and coordinate workforce development programs and funds statewide. There needs to be a statewide strategic plan aligned with economic development goals. All agencies need to be convened to work collaboratively to increase effectiveness, reduce duplication and support economic development strategies of the state.

Economic development and education are completely entwined and South Carolina must have a comprehensive approach to education and workforce development that spans kindergarten to retirement. Leaders from the business community working closely with the leaders of the education and workforce development communities advocate strong commitment to these programs that are critical to this comprehensive strategic plan. As the Senate makes hard decisions regarding budgets for 2009-2010, we ask that this comprehensive strategic plan be a guide and that the following programs receive full support:

1. Sustain funding for 4K programs
2. Continue funding EEDA implementation
3. Continue funding Registered Apprenticeship program
4. Continue support for Endowed Chairs program
5. Establish Department of Workforce to coordinate statewide programs

South Carolina paper

The business community, working in collaboration with education leaders, advocates a comprehensive approach to education and workforce development that covers the spectrum of K-12, higher education and adult workforce training.

Alaska must prepare the pipeline through K-12 and higher education and also re-engage adult workers who are under-skilled and underemployed. Listed below are the key strategies identified by business and education leaders to ensure a competitive workforce:

1. Invest in early childhood education to ensure students are prepared to succeed when they enter school.
2. Institute a statewide, integrated infrastructure so students and adults see the relevance of education to career choices and goals.
 - A. Career development curriculum guides individual graduation plans for all students beginning in the eighth grade. Students complete self-assessment activities to determine interests and abilities, choose a cluster of study aligned with their career goals and plan courses to complete a major by graduation.
 - B. At Risk programs, proven to keep students on schedule to graduate, will be implemented in every high school in the state, to keep high risk students in school and moving to the next grade.
 - C. Increase the number of Tech Prep and dual credit courses to provide a seamless transition to higher education.
 - D. ?????? Regional Education Centers engage employers with students and adult workers aligned to economic development strategies in their regions.
3. In addition, the following targeted programs partner with employers to get adults trained and into high need jobs:
 - A. Through the State Apprenticeship Program in the Alaska Department of Labor and Workforce Development, employers are helped to set up federally approved apprenticeships for their employees improving recruiting, retention, productivity and quality.
 - B. Working with DOLWD, Regional Training Centers identify jobs that are in high demand and develop 3-6 month training programs in which qualified high school students and adults can gain the skills to fill the jobs with local employers.
 - C. Using the DOLWD-developed careers ladder, job centers, and RTCs, retrain existing workers for higher skill jobs to keep existing industries competitive and to attract new businesses to the state that require a higher skilled workforce.
 - D. The state needs develop and improve its infrastructure for awarding GEDs to residents no longer in the public school system, and those GED's should be a seamless entry to education and training for higher skilled jobs. Having Adult Education more closely tied to the RTCs and the University system is an important step in achieving that goal.
4. Four Year Colleges and Research Universities provide a foundation for the knowledge economy.

A. Dual credit programs between postsecondary technical institutions like AVTEC and the University system enable students to acquire technical skills required by employers and liberal arts critical thinking skills so important in the knowledge economy. The IT industry highlights the importance of this blended education pathway.

B. Alaska needs to expand access to needs based tuition assistance. Many students needing to go to college cannot afford to continue their education and as we re-engage the adult workforce in higher education, it is important that the state find ways to make higher education financially possible for many more people.

5. The State Workforce Investment Board has established a statewide strategic plan that encourages the local WIB's to increase emphasis on training and upgrading skills of the adult workforce served through the federal Workforce Investment Act. Working through One-Stops and in partnership with postsecondary education providers, Adult Education, and community organizations, WIA is providing training for under and unemployed adults and youth to fill skill gaps and prepare the workforce for recovery. Training is focused on demand jobs such as healthcare, business, building trades, and other high demand occupations identified by DOLWD and the AGIA Plan.

A. A signature program of the State WIB and EED is the WorkKeys Career Readiness Certificate whereby adults and students can certify to employers their competence in reading and math skills needed on the job. There needs to be a continued effort to develop job profiles, inform public and private sector employers, and increase the relevance of the CRC for students in the public school system and adults in the Alaska workforce.

B. There is a need to align and coordinate workforce development programs and funds statewide. There needs to be a statewide strategic plan aligned with economic development goals. All agencies need to be convened to work collaboratively to increase effectiveness, reduce duplication and support economic development strategies of the state.

Economic development and education are completely entwined and Alaska must have a comprehensive approach to education and workforce development that spans kindergarten to retirement. Leaders from the business community working closely with the leaders of the education and workforce development communities advocate strong commitment to these programs that are critical to this comprehensive strategic plan. As the Legislature makes hard decisions regarding budgets for 2009-2010, we ask that this comprehensive strategic plan be a guide and that the following programs receive full support:

1. Sustain funding for EED CTE programs

2.

3.

4.

Etc.

Connect2Business web-based platform found at www.scpathways.org employers are able to provide job shadowing and internships to students. At the same site, adult workers can access tools to explore careers, education and training and look for jobs. In February, public library staffs across the state were trained on Connect2Business to help the large influx of adults using library computers to search for jobs. The www.scpathways.org site, free to all in South Carolina, can connect people without jobs to the jobs without people.

The Personal Pathways IT platform that includes the College and Career Planning System, the electronic Individual Graduation Plan, Connect2Business and Kuder Journey for Adults provides web-based education and career planning for students, parents, educators and adult workers. This data platform also provides data analysis to support economic development planning by county and by region.



High Schools on the Move: Renewing Vermont's Commitment to Quality Secondary Education

Vermont High School Task Force

Vermont Department of Education

Montpelier, Vermont

August 2002

With support from:

Lamoille South Supervisory Union, Keller & Fuller, Inc. and Creative Vision Design

The State of Vermont Department of Education is committed to ensuring that all of its programs and facilities are accessible to all members of the public, and that all activities and programs are non-discriminatory in design, application and performance. The Vermont Department of Education is an equal-opportunity agency and does not discriminate on the basis of race, creed, color, national origin, gender, age, handicapping condition and/or disability, or sexual orientation.

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STATE OF VERMONT
DEPARTMENT OF EDUCATION
120 State Street
Montpelier, VT 05620-2501

August 2002

Dear Fellow Vermonter:

In April 1999, the State Board of Education charged the Department of Education to convene a statewide task force to address critical issues facing Vermont high schools. The Vermont High School Task Force, established in October of 1999, included teachers, administrators, business representatives, higher education personnel, parents, state agency personnel and students.

From its inception, the Task Force worked diligently to provide focus, clarity and insight into the challenges facing secondary schools. The Task Force focused on articulating a vision for secondary schools and on identifying learning opportunities to support the vision. This document represents the culmination of the Task Force's work and serves both as a call to action and a tool kit to help educators and communities chart their own courses for change in secondary schools. Within these pages you will find resources to help shape high school renewal efforts. I urge you to use this document often. The work within represents a path to renewed and re-invigorated secondary schools.

On behalf of the education community, I'd like to express sincere appreciation for the hard work and dedication of the Task Force members who volunteered for 2 years working in service for high school renewal. In particular, I'd like to recognize the steering committee members who provided oversight and guidance to this work: Robert Stanton, Ellen Keane, Armando Vilaseca and Andrea Silva McManus. I also would like to thank former commissioners Marc Hull and David Wolk along with Deputy Commissioner Marge Petit for their roles in starting and sustaining this work.

The excellent work, extraordinary commitment and insightful thinking of the Task Force is to be commended. Working in concert to answer challenging questions, the Task Force has developed a solid vision of what Vermont's secondary education can become. The department fully supports this vision and will work to identify resources, both fiscal and human, for this ongoing effort.

Vermont youth deserve an education that prepares them for strong economic, civic and personal futures. The Department of Education looks forward to working with school districts, schools, business representatives, post-secondary institutions and partner state agencies toward this goal. Together we will influence secondary schools to become both highly desirable places to work and schools where each of our students can flourish and launch successfully into adulthood.

Sincerely,

A handwritten signature in black ink that reads "Ray McNulty".

Ray McNulty
Commissioner



STATE OF VERMONT
DEPARTMENT OF EDUCATION
120 State Street
Montpelier, VT 05620-2501

August 2002

Dear Fellow Vermonter:

In October 1999, the Vermont Department of Education created the Vermont High School Task Force with the charge to examine the current state of Vermont's high schools and, with vigor, professionalism and forward thinking, to make recommendations for improvement. The State Board has been continually impressed with the work the Task Force has accomplished and commends its members for their hard work and commitment to Vermont's schools, students, educators, families and communities.

The work of the Task Force will be significant locally in Vermont, but it also has been recognized and rewarded nationally through the award of one of five \$1 million demonstration grants for high school reform. In addition, The U.S. Department of Education will study the Task Force's work for its implications for high school renewal nationwide.

The Task Force has contributed significantly to school improvement in Vermont. Its findings and recommendations are well aligned with the kinds of issues and standards being examined by secondary schools around the country. The Task Force has placed student learning and performance at the heart of its Twelve Principles and has developed the tools and strategies to assist communities and schools in meeting the diverse needs of their learners.

On behalf of the State Board of Education, I wish to extend to the Vermont High School Task Force our congratulations and deep appreciation for a job well done. The State Board looks forward to working with the Vermont Department of Education and educators around the state to implement the recommendations contained in this report.

Sincerely,

A handwritten signature in cursive script that reads "David C. Larsen".

David C. Larsen, Chair
Vermont State Board of Education



NATIONAL TEACHER OF THE YEAR PROGRAM

MAKING A DIFFERENCE - SHAPING THE FUTURE

August 2002

Dear Fellow Vermonter:

I have had the great honor and privilege of serving as the 2001 National Teacher of the Year. It has been both an exciting and a sobering journey over the past year. In Vermont and across the country, I have seen the shared commitment of schools and communities in ensuring their children have the benefit of an excellent education, including at the high school level. The ultimate goal has been to create an education system that respects each child as unique and ensures each is known and valued for who he or she is. I have seen high schools where the talents, interests and aspirations of all students are nurtured, helping them to build a strong foundation upon which they can successfully transition to adulthood.

Despite all the innovative and exciting programs I have seen, more needs to happen. It is with great excitement that I write this letter to endorse this report. As a member of the Vermont High School Task Force, I can speak firsthand to the care, experience, diligence and commitment that went into producing this work. I urge all Vermonters to come together to bring the concepts within this document to life. Our young people need our help now more than ever. With a dropout rate that hovers at 20 percent, we must work diligently to lower it. Additionally, we must ensure that Vermont high schools are safe, caring places where each student meets challenging standards, has multiple pathways to achieve those standards and expects to successfully meet his or her goals.

The Vermont High School Task Force solicited opinions from and listened to a wide range of constituents with a "stake" in high school reform. Task Force members visited schools, met with students, traveled to conferences, reviewed scholarly literature on high school reform and talked with educators who know firsthand the challenges that secondary schools face. They responded brilliantly to the State Board of Education's charge to "examine the current state of secondary schools in both Vermont and the nation" and made recommendations to guide the state's high school reform efforts. Their recommendations live within these pages. I hope you will use this guide to work collaboratively within your schools and communities to bring the Twelve Principles to life. Vermont's youth deserve nothing less.

Best Wishes,

Michele Forman

2001 Vermont and National Teacher of the Year

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Executive Summary



Charged in 1999 by the State Board of Education and the State Department of Education to recommend strategies for reforming secondary education, the Vermont High School Task Force has produced this report, *High Schools on the Move: Renewing Vermont's Commitment to Quality Secondary Education (HSOM)*. This report reviews the current situation in Vermont high schools in light of recent research, literature and national trends and proposes Twelve Principles to improve high school learning across the state. These Twelve Principles place individual student learning at the center of the renewal process and focus community efforts on ensuring that each high school student and each high school meets the high expectations described in *Vermont's Framework of Standards and Learning Opportunities*. The Principles also support New England Association of Schools and Colleges (NEASC) high school accreditation standards and Vermont's *School Quality Standards*.

High Schools on the Move does not recommend that Vermont schools apply a uniform blueprint to secondary school renewal; each high school serves in a unique setting. Instead, the report recommends that schools begin by adapting existing programs and aiming their action plans toward the Twelve Principles. The report urges high schools to include entire communities in changing the secondary school experience. By engaging families, teachers, human service agencies, businesses, colleges, elementary and middle schools in helping individual students pursue their personal aspirations and meet high standards, a high school can help develop opportunities for learning throughout the community. *HSOM* asserts that the purpose of high school should be to prepare each student to use learning to forge a unique pathway into adulthood and improve the quality of life in Vermont.

While consistent with recent reform efforts, the Twelve Principles would transform high school education as we know it. *HSOM* recommends that each student develops a personal learning plan (PLP) for all four high school years; that both academic courses and a wide array of community-based learning opportunities help each student carry out those plans; and that each student accumulates a portfolio of his or her work from many sources to demonstrate how he or she has met standards. Additionally, students should exhibit their portfolios to their communities as they approach graduation. Engaging teachers, advisors, community mentors, family members and other adults in developing and assessing PLPs and portfolios would make high school renewal a community enterprise. Reports from statewide tests will help communities monitor and adjust their plans to ensure that learning occurs equitably within the community.

Developing strategies for a change effort of this size will require time, money and statewide commitment as well as ongoing dialogue among all participants sustained over a long period of time. *HSOM* recommends that:

- The State Board of Education begins a statewide dialogue about using the Twelve Principles to revise planning, governance, funding and oversight of secondary learning

- The Vermont Department of Education works collaboratively with partners to develop a Center for High School Renewal and Innovation to guide and fund high school renewal across the state and to provide support through regional partnerships and local development initiatives
- Secondary schools form affiliated networks to develop and exchange working strategies that fulfill the Twelve Principles
- Teachers revise their courses so students use learning to direct their own lives and to accumulate evidence of how they have achieved Vermont's standards
- All secondary school students begin to use high school learning to pursue their hopes, develop their talents and show others how they have prepared to engage in their communities as adults



In This Report

Chapter 1:

A Call to Action: Renewing Vermont's Commitment to Quality Secondary Education reviews the Task Force's work and outlines the need for high school renewal.

Chapter 2:

Twelve Principles for High School Renewal explains the Twelve Principles along with suggested methods for implementation and likely outcomes.

Chapter 3:

Current Realities: Secondary Education, Schools and Communities presents data and conclusions regarding Vermont's schools, particularly attributes of high schools.

Chapter 4:

Effective Practices for Initiating Change reviews strategies for implementing the Twelve Principles along with practices that will promote systemic change in our high schools.

Chapter 5:

Practices to Consider Phasing Out reviews policies and practices that inhibit systemic high school reform and suggests alternate actions.

Chapter 6:

Conclusion

Appendices

The appendices included in this report are intended to provide additional information and tools to help schools and communities begin engaging in dialogue about high school renewal.

Chapter 1

A Call to Action: Renewing Vermont's Commitment to Quality Secondary Education

*“We have learned that we cannot mandate
what matters to effective practice;
the challenge lies in understanding how policy
can enable and facilitate it.”*

Milbrey McLaughlin, as cited in
*Dynamics of Change in High School Teaching:
A Study of Innovation in Five Professional
Development Schools*

In 1999, the State Board of Education charged the Vermont Department of Education with the task of identifying critical issues facing Vermont high schools as they organized “secondary schools” to better prepare young people to meet the challenges of the 21st century. Former Education Commissioner Marc Hull and former Deputy Commissioner Marge Petit then formed the High School Task Force, challenging a group of educators and community leaders to assess the current situation in our high schools and recommend changes that would improve learning for all Vermont high school students. Over the next two years, Task Force members reviewed national and international literature on high school reform and renewal. We also attended national conferences and consulted with educators from around the country who also are engaged in high school renewal; we studied the current state of affairs in Vermont secondary schools. In *High Schools on the Move*, we have proposed a set of recommendations that may guide high school reform efforts over the next several years.

As the Task Force began its work, members realized the importance of establishing a clear sense of the current reality in Vermont high schools and their communities. While we can report that we found much to celebrate, we concluded that our secondary education system cries out for attention. In general, more students than ever are graduating from high school and more are going on to some form of post-secondary education. However, many high schools have become impersonal institutions where individual dreams and talents easily are lost as students struggle to meet uniform curriculum requirements and accumulate Carnegie units. As a result, students with college aspirations focus their energies myopically on achieving competitive grades and test scores while students without clear college aspirations drift through four years of high school without an organizing purpose. During our discussions of research and current theory, the need for substantive change in Vermont secondary education became abundantly clear.





In this report, we have concluded that programs narrowly designed to suit only one traditional pathway cannot engage all students in developing their full potentials or help them realize their personal dreams. Narrowly defined pathways hinder the development of students who attend classes without meaningful, personal investment or engagement in creating their own futures. Twenty percent of Vermont high school freshman do not graduate in four years. They drop out disenchanted and face greatly diminished prospects as members of their communities. Many students who go on to post-secondary education change their majors several times; half do not graduate from college within six years. The economic and the emotional impacts of lost opportunities can be devastating for individual students and their families as well as the state as a whole.

We can no longer expect high schools to prepare 21st-century students for adult life by sealing them off from the challenges they will face as active members of their communities. We need to encourage our young people to use the impressive educational and natural resources available in Vermont communities to clarify their aspirations and develop the academic skills and knowledge they will need to fulfill their hopes. The research is clear: young adults need broad background knowledge that strengthens engagement in community affairs - in work, service, artistic expression and higher learning. We believe that a high school education should help students use their learning to manage and direct their own lives, inspiring them as well to join others to improve life within their communities.

Personalized high school learning

The High School Task Force identified Twelve Principles as a guide for high school renewal and innovation in Vermont. Progress toward the Twelve Principles is already well under way, developed incrementally over the past 20 years by high school students, teachers, administrators and community members working to improve the “fit” between individual students and school programs. The instances of effective practice cited here demonstrate that the Principles can be applied to a wide range of conditions within Vermont’s communities; they also indicate that the whole range of effective school practices have not yet been developed in any single high school. *High Schools on the Move’s* sustainable, systemwide change recognizes the difficulties we will face and simultaneously infuses hope for what we can achieve by working together.

We believe that Vermont high schools can become places where all students are deeply cared for, where they actively choose among many different pathways toward adult engagement and where they learn to meet the high standards outlined in *Vermont’s Framework of Standards and Learning Opportunities*. As generally expressed in Vermont’s Vital Results, each graduate of a Vermont high school should have demonstrated readiness to assume adult roles in the community:

- Gathering information and communicating their understanding in a wide variety of media
- Using knowledge to meet the challenges of life in a complex democratic society

- Assuming responsibility for their own decisions and actions
- Working cooperatively with others in the community to solve problems
- Assembling essential knowledge and practicing the flexible skills that support a lifetime of learning

As reflected in Vermont's Fields of Knowledge, the information needed to solve complex problems in an expanding community must come from multiple sources—arts, languages, literature, history, social sciences, mathematics, science and technology.

We have concluded that there is simply no uniform or right way to get all students engaged in learning. The Twelve Principles are designed to encourage wide ranging exploration of the many ways to explore personalized learning, fulfilling individual goals while meeting common standards. Five years from now, the high school experience will be organized to confront challenges in the adult world, helping students with different talents and aspirations use information to solve the problems they will face after graduation. Working with a team that includes parents, teachers and community mentors, each student can develop:

- A personal learning plan (PLP) describing the pathway he or she has selected with his or her parent(s) to accomplish goals that become increasingly clear as the student gathers knowledge and experience
- A portfolio expressing the talents, skills and knowledge he or she has gathered in meeting Vermont's standards
- Community exhibitions at which he or she demonstrates what he or she knows and how that knowledge fits future plans
- Standards-based transcripts that track his or her progress toward personal goals and common expectations

Rather than walled enclaves protecting young adults from the world they will govern, the high school can become a wheel with a solid hub, connecting students to learning opportunities in their communities.

Developing PLPs and assembling portfolios of evidence showing readiness for the adult world will require that all students have access to teachers who understand how content knowledge relates to student goals, and who:

- Understand their content well enough to forge connections between student aspirations and learning opportunities in their communities
- Understand learning styles and learning theories that explain individual differences
- Understand how the learning process changes with age, experience and growing expertise
- Create opportunities for students to interact with caring adults and peers
- Design learning experiences relevant and applicable to adult challenges
- Possess the instructional expertise needed to fit learning activities to different student talents and interests
- Practice a variety of techniques to engage different students in learning





We recognize that for many high school teachers, seeing content areas as ways to understand how the world works may require several years of collaborative exploration and experimentation.

Calling Vermonters to collective action

Personalizing high school learning may force us to re-invent most of the structures that currently define the high school experience. After more than 100 years of providing comprehensive exposure to knowledge for all students, the high school experience cannot be personalized through a series of minor adjustments. In fact, the system itself consists of interlocking elements that combine to restrict growth. Schedules, requirements, subject areas, credits, faculty roles, tracks, tests and rules have become a Gordian knot, an interconnected complex of practices that makes the high school experience impersonal and unresponsive to individual needs and talents. Changing any component of the high school experience requires changing the whole structure; changing the whole structure depends on communities being ready to support change over an extended period of time. We firmly believe that the time to begin is now.

Chapter 2

Twelve Principles for High School Renewal

At an important turning point in our study, the High School Task Force agreed upon a comprehensive vision that makes student learning and performance the organizing principle for our endeavors.

We reached consensus on a set of principles that were common across longitudinal studies of effectiveness and other reports. We believe the adoption of the Twelve Principles will improve student performance in Vermont's high schools.

We recognize that the Principles are not immutable; they will evolve as we continue to work for congruence between the vision they embody and the many requirements and demands that already challenge our schools and school districts.

In this chapter, the Task Force lists a few of the practices that embody each Principle. Many of the practices, it should be noted, embody several Principles, and not all practices that support a Principle have been listed. Appendix B outlines a rubric designed to help schools and communities communicate and assess progress toward the Twelve Principles in their own schools. Appendix C relates the Twelve Principles to New England Association of Schools and Colleges (NEASC) standards and Vermont's *School Quality Standards*.

The Task Force urges educators, families, students, citizens and policy-makers to:

- Embrace these Principles
- Assess high schools in relation to the Principles
- Join a statewide dialogue on how we can broaden support for the Principles
- Strive together for the renewal of our schools centered on the vision the Principles represent





Twelve Principles for High School Renewal in Vermont

- 1 Engaged Learners**
Students are engaged learners who are responsible for and actively involved in their own learning.
- 2 Challenging Standards**
Each student is expected to demonstrate that he or she has met challenging standards based on *Vermont's Framework of Standards and Learning Opportunities* or national standards.
- 3 Multiple Pathways**
High schools provide each student with a variety of learning opportunities and multiple pathways to meet graduation requirements.
- 4 Personalized Learning**
High schools create small, personalized and safe learning environments that provide students with stable support from adults, caring connections to mentors and a sense of belonging.
- 5 Flexible Structures**
High school schedules and organizations are flexible to allow time for varied instructional activities and to provide an integrated learning experience. Learning is the constant; time is the variable.
- 6 Real-Life Experiences**
Students learn about careers and college opportunities through real-life experiences and adult interaction, including work-based learning, service learning, career exploration, job shadowing and career academies.
- 7 Instructional Leadership**
Adults in the school use research-based practices and effective administrative and instructional strategies to support increased student performance.
- 8 Alignment**
Supported by research-based professional development, high schools align their curricula, instruction and assessment with Vermont's *School Quality Standards*.
- 9 Shared Purpose**
Every high school adopts and publicizes a compelling vision and mission that uses a results-oriented approach to promote continuous improvement.



10

Pre-K-16 Continuity

Every high school is a member of a pre-K-16 education system and is a partner with middle schools, colleges and post-graduation training programs to help students make successful transitions.

11

Family Participation

Families are active participants in their young adults' education and have varied opportunities to volunteer, serve on decision-making groups, assist students in setting learning goals, monitor results and support learning at home.

12

Community Partnerships

Every high school forms active partnerships with families, community members, business people, civic leaders and policy-makers to ensure fiscal support and to expand student learning opportunities.

“When a pupil asks ‘What am I doing here?’ we need to know that she wants to propose her own answers to that question, whether or not the larger system is attentive or responsive. And if we listen and respond, a new energy source for school reform can be triggered by our response: ‘What are you personally planning to do?’ ”

David Gibson with John Clarke,
*Growing Toward Systemic Change:
Developing Personal Learning Plans
at Montpelier High School*

Principle 1: Engaged Learners

Students are engaged learners who are responsible for and actively involved in their own learning.

Rationale

The purpose of high school is not to prepare students for a particular adult role. Instead, schools should help students explore their interests and aspirations and understand their career opportunities and the value of learning. The high school experience should expand from the classroom into the community to demonstrate real-world applications of knowledge. It should aid students in maturing and in learning how to make informed, well-reasoned choices. Students should acquire knowledge and learn how to use that information to solve the problems in life and work.

Our common purpose should be to develop high schools where students graduate ready to take on active roles as adults in their communities. Our central focus should be to allow students to develop their roles by actively engaging them in the workplace, community, post-secondary institutions and electronic networks as well as in the classroom. The way schools are organized and the way classrooms engage students should be centered on student needs and involving students in their own education.

This Principle is embodied in these effective practices:

- Student participation in setting learning goals
- Using teaching strategies (e.g., metacognition, reflection) that adapt to different learning styles
- Personalized learning, personal learning plans and portfolios
- Graduation challenge/capstone programs

Principle 2: Challenging Standards

Each student is expected to demonstrate that he or she has met challenging standards based on *Vermont's Framework of Standards and Learning Opportunities* or national standards.

Rationale

Engaging students in the direction of their own learning process begins with a clear statement of the expected performance against common standards. Instead of requiring the accumulation of credits in particular subject areas, these performance standards should be relevant to the acquisition of skills and knowledge sufficient to succeed in adult life.

This Principle is embodied in these effective practices:

- Making use of Vermont's *School Quality Standards* and adopting standards-based graduation requirements
- Expanding Advanced Placement (AP) programs and raising standards for special needs students
- Increasing the level and challenge of required course sequences
- Eliminating low-level courses and the non-college track
- Teaching reading and writing across the curriculum
- Expanding dual enrollment opportunities

“In numerous surveys, high school students have expressed their belief that their future success in the job market depends only on whether they graduate, not on their grades or what they learn.”

Laurence Steinberg, *Beyond the Classroom: Why School Reform has Failed and What Parents Need to Do*.

Principle 3: Multiple Pathways

High schools provide each student with a variety of learning opportunities and multiple pathways to meet graduation requirements.

Rationale

Each student has a unique learning style. Students who spoke with the Task Force emphasized this point and asked that high schools stop putting arbitrary barriers in the way of their natural desires and interests in learning. While most young people understand the need to demonstrate mastery of a core set of competencies, they want to pursue their own investigation of learning, not a prescribed regimen of unrelated classes that are established by rules, requirements and traditions.

Students also asked for learning experiences that connect classroom knowledge to life experiences, acknowledging that their own pathways through life will require individualized preparation. They pointed out that the current disconnect between learning and real life often explains why an academic record is not a complete measure of a student's aspirations and potential. Nationwide studies affirm what our students are telling us: students have diverse learning styles, skills and attitudes. Working with these differences will produce better results than trying to re-work them.

This Principle is embodied in these effective practices:

- Developing career academies, applied academics and career exploration opportunities in school
- Expanding and integrating community- and work-based learning opportunities
- Using multiple measures to assess achievement of standards
- Aligning high school standards-based transcripts and post-secondary admission requirements
- Adopting dual enrollment agreements with higher education institutions
- Establishing graduation challenge/capstone programs as culminating projects
- Developing working relationships between sending high schools and technical education centers



Principle 4: Personalized Learning

High schools create small, personalized and safe learning environments that provide students with stable support from adults, caring connections to mentors and a sense of belonging.

Rationale

Students learn best when they are in a physically, emotionally and intellectually safe and respectful environment. Personalized learning respects the diversity of students' cultural backgrounds, talents, interests and aspirations. Students face a world full of risks that only increase after graduation. To prepare students for their adult roles, high school must provide safe, supportive and encouraging environments allowing them to take risks, make mistakes and try again. Students need to be respected for who they are and what matters to them. They need to learn the importance of providing that same respect to others as they assume the mantle of adult citizenship.

High schools that have adopted a model of personalized learning in smaller learning environments are documenting improved student outcomes. When learning environments are smaller and more intimate, teachers and students can more easily get acquainted; teachers can spend more time with individual students; and students seem to benefit from the sense of belonging to a community. Whether this is the result of smaller groupings or other reforms related to smaller grouping currently is unknown, but there is little doubt about the contribution of small learning communities to improved outcomes.

This Principle is embodied in these effective practices:

- Developing freshman academies and transition programs to adult life
- Organizing adult mentoring for all students
- Exploring school-within-a-school, house or other smaller learning community configurations
- Designing a comprehensive educational support system to assist each student

“...practices that do appear to make a difference, such as raising academic standards and giving students plenty of one-on-one support, are most easily realized in smaller cohesive groups.”

U.S. Department of Education,
Aiming High

Principle 5: Flexible Structures

High school schedules and organizations are flexible to allow time for varied instructional activities and to provide an integrated learning experience. Learning is the constant; time is the variable.

Rationale

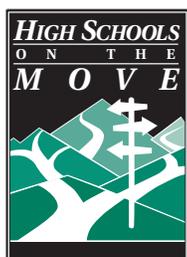
The establishment of flexible structures is one of the most consistent recommendations the Task Force found in major research on high school reform. When school structures are flexible, the concept of the school day and the walls of the school no longer limit educational opportunities.

One flexible model that many Vermont high schools are now implementing is block scheduling, a school-day format of longer but fewer classes. Because teachers and students have more time in each class and fewer classes per day, interaction increases, potential subject matter for courses expands and innovative teaching methods are enabled. Increasing evidence shows that learning improves, teacher satisfaction and student attendance increase and more innovative coursework can be incorporated into the curriculum.

Flexible structures can be the building block for other aspects of school renewal. Personalizing learning, enhancing opportunities for professional development, encouraging curriculum innovation and providing students with work- and community-based learning opportunities all depend on flexibility in scheduling when and where learning happens.

This Principle is embodied in these effective practices:

- Exploring a.m./p.m. structures: mornings for class instruction, afternoons for work- and community-based learning, extracurricular activities, professional development and integrated team planning
- Providing professional development opportunities and support to help faculty adapt to changes in scheduling
- Creating credit for personalized learning opportunities, such as travel-based learning, learning through internships and online learning
- Designing collaboratives among high schools and between high schools and technical education centers whether onsite, online or via distance learning
- Applying alternative systems for grouping students (not just by grade or age)



Principle 6: Real-Life Experiences

Students learn about careers and college opportunities through real-life experiences and adult interaction, including work-based learning, service learning, job shadowing, career exploration and career academies.

Rationale

Learning, like work, is a lifelong engagement. Prior to the Industrial Revolution, however, most formal education was directly related to community- and work-based activities. Young people learned by watching and working alongside their parents or through apprenticeships with master artisans. With the onset of the Industrial Revolution, educational systems began to separate work from learning.

Over time, the gap has grown between education and the work world. Concepts learned in the classroom have little real-world significance for many students because, in many cases, the classroom isn't connected to the world outside the school. Education cannot be delivered solely from textbooks and lectures; it must also include practical, hands-on experiences that challenge students to apply what they have learned in the classroom. Community- and work-based learning re-establish the connection between the classroom and the rest of the world by providing a bridge between theory and practice. Moreover, changes in the workplace emphasize the need for more highly skilled people whose training includes practical work experience.

This Principle is embodied in these effective practices:

- Establishing internships, apprenticeships, career exploration, community service and work-based learning opportunities
- Designing graduation challenge/capstone programs with culminating exhibitions
- Using multiple measures to assess achievement of standards
- Developing strong partnerships between businesses and schools
- Alloting flexible blocks of time for instruction
- Building mentoring programs that link students to community advocates and other adults

“When students without community-based learning experience walk downtown to and from school, they look at buildings and do not know what goes on inside. Their learning is at the school. With internships, students are put into the buildings. They learn what makes a community and they gain an increased sense of belonging.”

Vermont high school teacher

“Teachers must teach to higher standards and help students achieve a deeper understanding of content. They must help all students, of all abilities and from all backgrounds, achieve high standards. Given this challenge, we need to establish an effective professional development system that helps teachers increase their content knowledge, gain necessary teaching skills and revise their school and classroom curriculum.”

Vermont Department of Education,
*Recommendations to Establish a
Statewide System of Educator
Preparation and Professional
Development*

Principle 7: Instructional Leadership

Adults in the school use research-based practices and effective administrative and instructional strategies to support increased student performance.

Rationale

Even if a high school’s leadership and faculty are fully committed to the Twelve Principles, revitalization of a school’s performance will depend on building, supplementing and supporting teachers with rigorous and effective professional development and improved administrative leadership and by removing obstacles to change. As noted by the Maine Commission on Secondary Education in *Promising Futures*:

The current teacher’s work life stems from a time when teachers were assumed to have “learned their field” in college and students were expected to “learn what the teacher knows.” The knowledge explosion and our increasingly sophisticated understanding of teens and their learning make this job definition harmfully obsolete. They will need to devise individualized learning activities for students, and their own knowledge and skills will need to expand in order to match the ever-widening variety of learning and teaching challenges presented by students. (34)

The most effective professional development is job-embedded, built into the very job of teaching. Research on effective professional development has pointed to a need for leadership in devising and implementing new models for developing skills in our teachers. Teachers lead their own professional development in these models, which are based on self-assessment and involvement in objective goal setting, design and execution. Administrative leadership skills include building continuous and ongoing community support for effective professional development. Difficulty in recruiting and retaining qualified teachers and administrators is an additional challenge for effective, consistent educational leadership.

This Principle is embodied in these effective practices:

- Supporting peer evaluation and conferencing over student work
- Preparing school leaders to focus on peer support and curriculum improvements, not just evaluation
- Using research-based models for professional development that fit professional challenges
- Using in-service time for faculty to collaboratively develop schoolwide professional development plans for each year, aligned with the school action plan
- Aligning individual professional development plans with the school action plan
- Supporting national certification opportunities for teachers
- Building business/education partnerships that provide teacher internships and opportunities for collaboration on curriculum development and teaching



“Vermont’s *Framework* helps to establish world-class standards that schools and communities need to address. To assure a successful future, Vermont students must have access to a quality education that enables them to perform as competent, productive and engaged members of the workforce and society.”

Vermont Business Roundtable,
From High School to Workplace

Principle 8: Alignment

Supported by research-based professional development, high schools aligns their curricula, instruction and assessment with Vermont’s *School Quality Standards*.

Rationale

As the introduction to *Vermont’s Framework of Standards and Learning Opportunities* states, “these standards provide practical, useful reference points for the development of local curriculum and assessment. They are intended as points of reference, not limitations. Many students will accomplish much more than these standards envision; yet the standards set the targets for what all students should be challenged, encouraged and expected to achieve.”

Most high schools have already begun the process of aligning local curriculum with the *Framework*. A few have even begun developing graduation requirements based on achievement of standards, not just completion of credits. These are important changes as they establish both a new set of expectations for students and teachers and promote better outcomes from our education process. The standards make expectations for their performance clear to all students so they can understand what they need to learn and be able to do.

The *School Quality Standards* require all Vermont high schools to establish a process to ensure that graduating students can demonstrate achievement and mastery of *Vermont’s Framework of Standards and Learning Opportunities*, including the Fields of Knowledge and the Vital Results, by 2005. Alignment of curriculum with the *Framework’s* standards is essential for fulfillment of the spirit and letter of the standards-based graduation requirement.

This Principle is embodied in these effective practices:

- Conducting curriculum mapping to determine alignment with standards
- Developing standards-based units of study
- Using multiple measures to assess achievement of standards
- Developing standards-based portfolios to catalogue student performance related to standards
- Providing the support and means for faculty to develop the skills necessary to assist student mastery of *Vermont’s Framework of Standards and Learning Opportunities*

Principle 9: Shared Purpose

Every high school adopts and publicizes a compelling vision and mission that use a results-oriented approach to promote continuous improvement.

Rationale

Because so many stakeholders are involved in the success of our high schools, it is essential that schools devise, adopt and publicize a shared vision and mission developed through a collaborative and consultative process. Families, students, teachers, employers, social services, community organizations and other schools all should understand the school's mission and their own responsibilities and contributions.

This Principle is embodied in these effective practices:

- Holding community forums to develop a shared purpose
- Incorporating post-secondary data (e.g., post-secondary enrollment and completion, student surveys and employment after graduation) into pre-K-12 assessment and using longitudinal outcomes research in action planning
- Using multiple measures to assess achievement of standards
- Developing strong partnerships between business, government and service agencies and schools
- Improving relationships between sending high schools and technical education centers

“The boundaries separating members of the education system—learners, teachers, family and community members—can easily suppress change. However, when a common vision supports systemic resonance, the boundaries flex and allow people to come into dialogue and synchronize in unexpected ways.”

David Gibson and John Clarke,
*Growing Toward Systemic Change:
Developing Personal Learning Plans at
Montpelier High School*

“High schools can most effectively enact meaningful changes through the support of and coordination with post-secondary systems and sending middle schools.”

Vermont High School Task Force

Principle 10: Pre-K-16 Continuity

Every high school is a member of a pre-K-16 education system and is a partner with middle schools, colleges and post-graduation training programs to help students make successful transitions.

Rationale

A strong pre-K-16 structure, linked by common goals and reform strategies, is critical to high school renewal. With the State Board of Education’s adoption of the Common Core of Learning in August 1993, Vermont recognized that the entire education system has a responsibility to provide all students with the means to master commonly defined, broad areas of knowledge and skills. Each step of the education continuum provides age-appropriate learning opportunities that are aligned with the state’s standards, with the shared goal of preparing each student for adult life. Alignment of learning experiences for students pre-K-16 is possible and it is necessary. To that end, high schools should:

- Develop partnerships to support success across systems, to answer questions like: How well are our high school graduates doing in college—not only college admission but college completion? Is every high school graduate college and/or work-ready?
- Clarify expectations for college and work success. Research tells us that the quality and intensity of the high school curriculum is the most important predictor of college completion.
- Focus professional development and instructional strategies on meeting the needs of each student and reducing secondary and post-secondary performance and aspiration gaps among groups of students.
- Continue building partnerships with post-secondary institutions to align standards-based transcripts with admission criteria.

This Principle is embodied in these effective practices:

- Positioning the high school as hub of a comprehensive, community learning network that includes other schools, internships, work-based learning, home schooling and enrollment in college classes
- Establishing transition and orientation programs along the pre-K-16 continuum
- Developing pre-K-12 consultation structures
- Designing capstone projects that span several grades
- Aligning high school standards-based transcripts with post-secondary admission requirements
- Establishing mentoring relationships that support student progress

Principle 11: Family Participation

Families are active participants in their young adults' education and have varied opportunities to volunteer, serve on decision-making groups, assist students in setting learning goals, monitor results and support learning at home.

Rationale

Academic performance improves when families are involved in their children's educations. Blended families, single-parent families, two-wage-earner households, the demands of other children on the family—all of these make it a challenge to engage families in the school. Yet, the effort must be made. Families are an essential part of a student's support and nurturing, and schools cannot—nor should they—fill all needs of our youth. Preparing well-rounded, well-adjusted youth is a 24-hour a day job, and families must participate as partners with schools.

Moreover, families have an important role in creating and continuously improving the mission of the school itself. A school is most likely to be successful when the vision is collaboratively developed and when accountability is shared among students, educators, families and the community.

This Principle is embodied in these effective practices:

- Ensuing family input in student goal-setting and monitoring and in developing personalized learning plans
- Involving parents in school action planning and school leadership teams
- Scheduling “first day” events to begin the school year and a mid-year school report night to discuss school progress
- Establishing closer collaboration with home schooling families
- Engaging family participation in education to model lifelong learning
- Scheduling adequate, mutually convenient times for families and educators to meet
- Defining reasonable caseloads and flexible work days for guidance counselors to enable them to support increased interaction with families
- Scheduling regular parent/student/school forums to share ideas
- Integrating the goals of parent organizations into the school action plan
- Developing home/school compacts to guide a shared effort toward student learning

“Overall, 49 percent of students reported that their parents talked with them daily about school and 27 percent talked with them once or twice a week. Eighteen percent of students reported that their parents never talk with them about school and 7 percent reported that their parents talk with them less than once a month.”

Vermont Department of Health,
2001 Vermont Youth Risk Behavior
Survey

“We believe that one of the most promising strategies for helping young people improve academic achievement and labor market connections is to strengthen the links between local employers and schools.”

Committee for Economic Development, *The Employer’s Role in Linking School and Work*

Principle 12: Community Partnerships

Every high school forms active partnerships with community members, business people, civic leaders and policy-makers to ensure fiscal support and to expand student learning opportunities.

Rationale

Building community alliances is one of the key reform strategies identified by the New American High Schools program in a literature overview published by the U.S. Department of Education in 1999:

In order to prepare students for the many challenges they face, schools are learning to reach out to their local stakeholders to take full advantage of the resources available to them. Partnerships with employers, linkages with social service and other community organizations, and deeper bonds with family and teachers all benefit students. Although schools cannot lose sight of their primary mission and responsibilities—that of educating youth for productive lives—their capacity to do so can be substantially enhanced with the help of others. Partnerships with community-based organizations can alleviate the need for schools to address their students’ legal, medical, and financial issues single-handedly, while employers can help design curricula, serve on advisory councils, provide work-based learning activities, and serve as mentors. All of these relationships translate, in varying degrees, to improved student attitudes toward and engagement in school, better grades, higher graduation rates, enrollment in postsecondary education, and a host of other positive outcomes. (92)

This Principle is embodied in these effective practices:

- Positioning schools as the hub of a comprehensive, community, lifelong learning network and offering teachers and students work-based learning opportunities with employers and social service organizations
- Developing strong business/education partnerships
- Designing graduation challenge/capstone programs
- Offering community service learning opportunities and inviting community members to serve on capstone or graduation challenge review panels
- Using mentors to better guide students toward their aspirations and goals

Chapter 3

Current Realities: Secondary Education, Schools and Communities

The Task Force believes that we can best chart our future course if we start by assessing the current realities in our high schools and communities. Collected between 1997 and 2001, statistics cited in this chapter may provide a general sketch of high school learning during that period.

There are significant variations in size, capacity and student demographics among secondary schools in Vermont. There also are variations in what communities can contribute to their schools, financially or through engagement with the community. Variations are so great, in fact, that the use of state averages is almost meaningless. One might say, “When you’ve seen one Vermont high school, you’ve seen one Vermont high school.”

What follows are some of the salient data about the state’s current system of secondary education. We acknowledge that this is not an exhaustive analysis. Many data we hoped to find were not available, but we believe that this compilation provides an important snapshot of where we are as we begin designing strategies for high school renewal.

These statistics come from published sources, state documents and interviews with individuals working throughout the educational system and are listed in the bibliography.

Observations on our System and Student Population

Structure

In 1999, about 47,000 Vermont youth were receiving secondary education in 59 secondary school districts:

- Seven school districts had high schools serving grades 9 to 12
- Seventeen schools were serving grades 7 to 12
- Two schools were serving grades 5 to 12
- Twenty-four school districts had K-12 programs
- Nine school districts had pre-K-12 programs
- Fifteen career and technical education centers serve secondary students and adult learners





Size

Most high schools serve a single school district, which, theoretically, makes it easier to ensure alignment from pre-K through grade 12. Yet, 24 of the 59 public secondary schools are supervisory union (SU) high schools. These 24 secondary schools are at the receiving end of a funnel with students from as many as a dozen elementary and middle sending schools located in two or more school districts.

While the high schools tend to be larger, they vary greatly in size. According to 1999 data:

- Fourteen schools had enrollments of less than 750
- Four schools had enrollments between 750 and 1,000
- Six schools had enrollments that exceeds 1,000

There is an even wider range of enrollment among the single-district high schools. Enrollment ranges from 90 grade 9 to 12 students in Concord's combined elementary/secondary school to 1,485 at the Essex High School, a 9 to 12, single-district high school. Nearly half of all Vermont secondary schools serve fewer than 600 students—an attribute that many researchers and educators now consider a strength.

Enrollment trends

Communities are challenged to match facility capacity with projected enrollment. Peak secondary enrollment occurred during FY80 with 49,309 students from both public schools and independent secondary schools acting as public schools. A decline in the public secondary enrollment took place between FY81 to FY91, while secondary numbers from the five independent secondary schools acting as public schools remained relatively consistent at around 3,000 students. From FY91 to FY02, secondary enrollment has been increasing at a compounded annual growth rate (CAGR) of 1.37 percent. In FY02, secondary enrollment increased by 0.63 percent (26 students) from FY01.

Number of teachers

Only limited aggregate data describe teacher supply and demand in Vermont. Data on the number of teachers in a district are submitted to the state with school budgets, but these totals do not identify the grades in which teachers work. The Vermont Department of Education reports a total of 8,741 teachers in FY02 in pre-K-12, one-third of whom teach in high schools.

Demographics

Most data on the demographics of Vermont's student population are reported only in aggregate form, blurring the variations known to exist between regions. Further, secondary student information is not always reported separately from district data. The Task Force recognizes that each district will face unique challenges based on the demographics of its own high school student population:

- The percentage of minorities enrolled in all K-12 schools in FY00 was 3.16; this number has grown during the past decade.
- According to *Education Week*, 13.5 percent of Vermont's K-12 students are living in poverty, and 11.4 percent of K-12 students have disabilities.
- Alternative programs in 81 secondary schools serve about 1,500 students, or 3 percent of all students; 920 students from 74 secondary schools, or 2 percent of all students, have individual education plans (IEPs).



Other Attributes of Our High Schools

Governance

Secondary school governance is decentralized and diffuse. The numbers of boards and individuals with decision-making roles in our high schools include:

- Secondary school students: 47,000
- School boards with high schools: 60
- School board members: 451
- Superintendents: 60
- Principals: 59

In Vermont, there is one school board member per 104 secondary students.

Schedule and organization of classes

While data are not available statewide, it is believed that most secondary schools still organize their curricula by subjects and Carnegie units, track students by ability and future plans and follow a traditional school day of 45-minute to 50-minute class periods.

On the other hand, course schedules for the 30 percent of 11th- and 12th- grade students enrolled in technical education center programs follow students' career curricula. Courses are embedded in half-day or full-day programs and may incorporate applied mathematics and other traditional subjects.

Advanced courses

Eighty-eight percent of Vermont's public schools offered Advanced Placement (AP) courses in the 1999-2000 school year compared to 57.3 percent nationally.

“School is different than when you attended. There are things you can’t understand.”

Vermont high school student

Technical education

About 4,800 Vermont resident students were enrolled part time or full time in technical education programs in the 2001-2002 school year. The programs were provided by both technical education centers and comprehensive high schools. About 130 of these students were adults with or without diploma, while the remainder were currently enrolled in a public high school, public-private academy, independent high school or were home schooled.

Dual enrollment

Dual enrollment allows students to earn credits toward graduation and college degrees simultaneously. Opportunities are available in some parts of the state for high school students to enroll in the Community College of Vermont (CCV), the University of Vermont (UVM) or the Vermont State Colleges system. A program at UVM offers high school students reduced tuition on selected courses during the summer session. A special scholarship-funded course at UVM, “Poe’s Children,” is offered to area high schools students. A Middlebury College program offers certain courses to qualified students as a community service.

The cost of dual enrollment varies widely. Some programs at Vermont Technical College and certain courses at Middlebury College are free. In other cases, tuition costs are shared equally by the high school, the college and the student. Some courses at Johnson State College and CCV are provided at reduced fees, while regular school-year courses at UVM are available only at full tuition. Decisions about credit equivalencies vary and are part of the local articulation agreements often based on Carnegie units rather than mastery of learning standards.

Work- and community-based learning and community service learning

Expanded learning opportunities have been made available in many secondary schools as a result of the School-to-Work initiative, which was carried out through 14 regional business/education partnerships between 1995 and 2000. According to data from the partnerships, applied academics have been integrated into curriculum in 48 percent of schools. Career exploration programs are available in 60 percent of secondary schools. Capstone projects (in-depth personal learning experiences incorporating research, work-based and community-based and service learning) are either elective or required in 46 percent of secondary schools. Work-based learning experience is elective or required in 65 percent of high schools. Community-based learning or community service learning is elective or required in 75 percent of high schools.

What Can We Conclude from Our Current Realities?

Common themes that emerged during the Task Force’s two year study led us to formulate the nine observations that follow, as well as the challenges we face as we try to make the high school experience more responsive to students’ individual needs and talents. The Twelve Principles and core recommendations of this report are our response to these challenges.

Observation 1: Vermont schools are graduating a higher proportion of eligible students than the national average, but 20 percent of our students are not graduating with their classes. Ninety-five percent of incarcerated youth do not have high school diplomas and most dropped out in 9th or 10th grade.

Challenges: To continue to raise the proportion of students graduating and to graduate youth who are at risk or who have left school; to increase the value of a high school diploma by ensuring that all graduates can perform at skill and knowledge levels described by *Vermont’s Framework of Standards and Learning Opportunities*.

Observation 2: Secondary school students exhibit more varied and complex learning and social and emotional needs than in the past. In many areas of the state the student body also is becoming more culturally, racially and socioeconomically diverse.

Challenges: To know well and to value each student and her or his learning styles, needs and aspirations; to meet the needs of our increasingly diverse youth population who may live in communities unaccustomed to change.

Observation 3: Significant disparities exist in access to learning opportunities within Vermont’s secondary schools.

Challenge: To ensure access to personalized learning for each Vermont youth regardless of socioeconomic or cultural background, race, gender or educational history, without overtaxing the fiscal and human resources of secondary schools.

“It would be startling if all of the graduating seniors of four Vermont high schools dropped out this year before receiving their diplomas. But that is the magnitude of what has been happening across Vermont each and every year for at least two decades.”

The Governor’s Team on Dropout Prevention, March 1989

“Help me to be successful. Don’t just tell me to get As.”

Vermont high school student

“Most students are exposed to a mass of information and take away with them only what corresponds to their personal interests.”

Vermont high school student

Observation 4: Vermont has implemented a rigorous tool for statewide assessment of student performance—the New Standards Reference Exams (NSREs)—but students face no individual consequences for poor performance and many school districts are not making the best use of test results to improve student achievement of *Vermont’s Framework of Standards and Learning Opportunities*.

Challenge: To develop meaningful, effective and economical models for rigorous statewide assessment of student performance that recognize the unique characteristics of students and school districts while promoting mastery of *Vermont’s Framework of Standards and Learning Opportunities*.

Observation 5: Based on statewide assessments (the NSREs), overall student performance in the State is not satisfactory; not enough high school students are meeting or exceeding the assessment’s standards. Vermont’s *School Quality Standards* require that all high schools implement standards-based graduation requirements by 2005.

Challenges: To provide leadership, resources and conditions for all Vermont students, educators and parents; to give all students ample opportunities to master Vermont’s standards and achieve their own personal learning goals; to permit achievement of the goal of statewide standards-based graduation; to ensure alignment of learning goals through the pre-K-16 curriculum in each community.

Observation 6: Some Vermont students find secondary education irrelevant and feel disengaged from learning, a frustration often shared by their teachers.

Challenge: To authentically engage students, teachers and parents in learning experiences that are rigorous and that students find relevant to their current needs and future ambitions.

Observation 7: Some Vermont students feel disconnected from the important decisions that determine their educations, school life and futures; many parents share these feelings.

Challenge: To develop means through which students and their parents can make important decisions about future goals and current educational activities and can participate in shaping school procedures that significantly affect student learning.

Observation 8: Our secondary schools receive little feedback on how well their graduates fare after leaving high school. We neither have sufficient data to measure trends of Vermont high school student acceptance and completion rates at post-secondary institutions, nor can we compare our rates to other states. We also are unable to evaluate the achievements of students as they navigate into adulthood.

Challenges: To incorporate data on post-secondary achievement into the pre-K-12 assessment system and to use that information to provide support and learning opportunities throughout the transitional years to help all Vermont high school students prepare for productive and fulfilling lives.

Observation 9: Vermont high schools face many challenges, including unfunded mandates, budgetary pressures, teacher shortages and societal problems. Schools also face multiple and sometimes conflicting requirements—and struggle to succeed at them all.

Challenges: To focus the primary resources and energies of each Vermont secondary school on learning, which is its most central mission; to refocus all school activities to serve this central mission coherently; to better explain the multiple accountability systems and requirements imposed on our schools.

“We provide waivers that allow educators to teach classes outside of their majors or fields of knowledge. We would not let doctors do the same thing. Teaching is just as important.”

Michele Forman, 2001 Vermont and National Teacher of the Year

Chapter 4

Effective Practices for Initiating Change

To establish standards-based graduation by 2005, high schools throughout Vermont are already testing and implementing exciting new approaches to teaching and learning. We have drawn from their experiences and from the body of research reviewed by the Task Force to select the effective practices described in this chapter. These practices, along with other innovative approaches, serve as models for improved student learning.

To ensure continuous evolution toward improved learning, effective practices should be customized to each school. At the same time, the Task Force urges communities to keep in mind these important concepts, supporting the Principles and the Task Force's vision of reform:

Standards: The learning of each student should be held to high standards that are established by the local school and district, be consistent with action plans and clearly address Vermont's *Framework*, including Fields of Knowledge and Vital Results standards.

Multiple pathways to learning: The means by which students reach these standards can be as diverse as the students are. Helping students determine and pursue personal learning pathways is the shared responsibility of schools, students and families. Offering diverse pathways is consistent with the *Framework*.

Standards-based assessment: The assessment of student progress must measure student learning against the common standards found in the *Framework*. Additionally, achievement should be assessed against individual goals and standards developed in conjunction with students' personal learning plans.

We hope that Vermont high schools will produce additional models of effective practices as more communities become engaged in school improvement discussions and action planning with the Twelve Principles.

Personal Learning Plans

Personal learning plans (PLPs) recognize the individuality of student learning styles, histories, interests and aspirations and allow the student, in concert with school staff and family, to guide the learning experience. Because of the central role each student plays in constructing a PLP, the student's own ambitions, talents and interests become the unifying elements of his or her learning process over four years.



“High-quality education cannot be sustained without a sound economic base any more than a sound economic base can be sustained without high-quality education. Get it onto your agendas. Work it into your budget planning, and view it as an investment in your own economic future. The education community is ready to embrace you.”

James R. Bruce, Jr., business partner in the Addison County School-to-Work initiative, in an open letter to the business community, May 1999

Vermont secondary schools have developed several models for PLP programs, which share some common elements:

- Assignment of a teacher advisor to each student for four years
- Student participation in a small, multi-grade or single-grade peer group that works together for one to four years
- The setting and resetting of personal goals and standards for achievement
- Inclusion of learning opportunities in the school and community, such as:
 - ✍ **Self-discovery** – Through exploration activities, students discover what their strengths and interests are and how to express themselves as learners
 - ✍ **Making connections** – Students are exposed to in-school and community educational resources that have the potential to support their PLP goals
 - ✍ **Exploration and application** – Through continuing, active exploration, students work to extend their interests to their post-secondary education plans
 - ✍ **Documentation and demonstration** – Student learning commonly takes the form of projects, portfolios, presentations or public discussions documented in a portfolio

Personal learning plans allow schools to unify many pre-existing programs, such as career exploration and career portfolios, community-based and service learning, field study, internships, applied learning and capstone projects, into an integrated approach to student-centered learning. Further, because a PLP targets individual student goals as well as the common learning goals identified in *Vermont’s Framework of Standards and Learning Opportunities*, the program allows students to follow multiple pathways to learning while demonstrating required individual competencies and achievement of common standards.

Many classroom teachers seek ways to personalize their students’ learning by incorporating students’ strengths, interests and aspirations into the coursework. Students use their PLP strategies as they learn new content in their classes. Self-discovery, making connections, exploration and application, documentation and demonstration are seen as vital stages of students’ classroom learning. The PLP advisory period and conferences, student choice and student empowerment in classroom learning combine to form personalized learning and a socially diverse setting.

Personal learning plans further these Principles:

- | | |
|---------------------------------|-----------------------------------|
| 1. Engaged Learners | 6. Real-Life Experiences |
| 2. Challenging Standards | 8. Alignment |
| 3. Multiple Pathways | 11. Family Participation |
| 4. Personalized Learning | 12. Community Partnerships |

Capstone, Graduation Challenge and Senior Projects

A capstone, graduation challenge or senior project allows a student to integrate learning from a variety of settings and sources while demonstrating mastery of the Fields of Knowledge and Personal Skills identified in *Vermont's Framework of Standards and Learning Opportunities*. Because of the variety of learning activities involved, these projects also satisfy the *Framework's* requirements for Learning Opportunities. Projects generally include these elements:

Personal portfolios

This collection of work products, performances and reflections exhibit a student's accomplishments and mastery of the Vital Results over time. The student and his or her family, teachers and peers often review the portfolio jointly.

Research projects, generally involving community- or work-based learning opportunities

Students identify a topic and work with an advisor (e.g., faculty member or community mentor) to set learning goals for this phase. They may conduct research or demonstrate newly acquired knowledge through an internship or other experience outside of the traditional school setting. Students develop a mentor relationship with an expert in the area of study and also work with a faculty advisor for the project. Documentation of the research may be part of the portfolio, or may be a specific research paper, display, presentation or performance.

Personal performances or presentations of research

Students share their learning in some original way with a jury of peers, mentors, experts and family members in a public performance or expressive presentation.

High schools throughout Vermont have adopted a variety of models for this practice. In some high schools, students develop skills and knowledge by carrying out a series of smaller projects each year, with the culminating presentation in the senior year. In other schools, the project becomes a focus for the entire senior year. These projects are elective in some high schools, but in at least three high school districts (Cabot, Randolph, and Champlain Valley Union) completion of the project is a requirement for graduation.

These initiatives provide students with the opportunities to establish sound work ethics; develop solid study and research skills; demonstrate high academic achievement; and develop effective social skills, good citizenship practices and a sense of community service. Moreover, these programs allow multiple forms of measurement to assess mastery of *Vermont's Framework of Standards and Learning Opportunities*.

“PLP development is not merely a beefed-up advising program, nor is it a single-event, community-based learning experience. Rather, it represents the beginning of a four-year conversation between a student and her teachers about her hopes and dreams for the future. This conversation will aid in the creation of a personal portfolio in which to keep her reflections about her purpose and her learning. And it will provide her with access to caring adults who will help her to navigate her way.”

David Gibson and John Clarke,
*Growing Toward Systemic Change:
Developing Personal Learning Plans at
Montpelier High School*

“Putting on a musical for the whole school that I’d composed and orchestrated was a stressful but exciting experience. I can’t say I learned the traditional way, but learned more from personal experience while putting on this concert. It was hard, but it helped me to leave high school feeling prepared for what was to come in college.”

Vermont high school senior

Graduation challenge or senior projects further these Principles:

1. Engaged Learners
2. Challenging Standards
3. Multiple Pathways
4. Personalized Learning
5. Flexible Structures
6. Real-Life Experiences
8. Alignment
12. Community Partnerships

Multiple Measures to Demonstrate Achievement of Standards

Because the *School Quality Standards* require high schools to redefine assessment, the Task Force explored the means and methods currently used to measure performance. We found that many widely used practices inhibit or even preclude the opportunity for personalized learning that is central to the vision we are presenting. We believe that each student’s learning must still be held to high, common standards. The pathways toward graduation may vary, but the standards are competencies that each student must achieve. Flexibility lies in how students demonstrate what they have learned and the pathways they follow to reach the commonly held standards for learning.

High schools should explore promoting accountability for performance in many ways. The Task Force identified several already in use in Vermont schools:

- Comprehensive personal learning plans
- Graduation challenge, capstone projects or senior projects
- A combination of standardized assessments, such as the NSRE English/language arts and mathematics exams in grade 10; the Vermont science assessment (PASS) in grades 9 and 11; and the Vermont mathematics portfolio in grade 10
- ACT, PSAT and SAT scores
- Reporting of student achievement in standards-based transcripts that include comparative and personalized measures
- Personal performance, such as reporting the results of a career exploration project or demonstrating competency in a skill such as welding or piano

By gathering and analyzing multiple data points, both for individual students and groups, the school community can evaluate not only student performance but also identify issues that may be inhibiting student achievement schoolwide.

Capstone assessment initiatives allow a well-rounded evaluation of each student’s performance, such as:

- A comprehensive student development collection or portfolio
- Standards-based units of study

- Community service and work-based learning activities
- NSREs in English/language arts and mathematics
- Vermont social studies assessment
- Writing portfolios
- Mathematics portfolios
- Vermont science assessments (PASS)
- Assets surveys

Multiple measures of performance further these Principles:

- | | |
|---------------------------------|---------------------------------|
| 1. Engaged Students | 5. Flexible Structures |
| 2. Challenging Standards | 6. Real-Life Experiences |
| 3. Multiple Pathways | 8. Alignment |
| 4. Personalized Learning | |

Strong Employer and Education Partnerships

There is ample evidence that many students learn best by doing and that making the connection between the content of education and the world of work motivates and provides added meaning to the high school experience. Partnerships between educators and employers in the community allow for the creation of meaningful career exploration, applied learning and work-based learning opportunities for students. These opportunities are more numerous than schools may realize; while many schools partner with private-sector employers, fruitful partnerships are also available with nonprofit organizations (such as healthcare institutions) and with state and local government, which are often the largest employers in rural areas.

Work-based learning opportunities and partnerships for the development of classroom curricula expand learning for all students. Students, whether college-bound or career-bound, are exposed to a variety of careers and learn to recognize the associated education requirements. Their ability to make decisions about both post-secondary education and employment is enhanced.

Employers can fulfill numerous roles in the high school setting. Opportunities vary with the intensity of the employer’s investment in the partnership. In Vermont high schools employers are:

- Participating in the development of applied learning curricula and teaching classes along with educators
- Identifying employability competencies and developing industry-skill standards

“The local system shall employ a balance and variety of assessment strategies, both classroom-based and school-level assessments, in order to gain useful information on student learning. Students and parents shall be informed on a regular basis regarding progress toward achieving the standards. The school shall provide students the opportunity to evaluate their own work ... These rules are designed to ensure continuous improvement in student performance and the provision of high-quality programs to enable students to attain rigorous standards.”

Vermont’s School Quality Standards, 2120.2.2: Development and Implementation of Local Comprehensive Assessment System

“I need to learn more about what’s out there, not just what’s in my own school.”

Vermont high school student

- Sponsoring teacher internships to facilitate creation of applied curricula
- Sponsoring apprenticeships, internships and other work-based learning opportunities for students
- Assisting as guest speakers on education and careers, sponsoring career fairs and offering job shadowing opportunities
- Acting as mentors

In addition to offering expanded learning opportunities, intensive employer and school partnerships provide benefits to employers:

- Well-educated and highly functioning youth contribute to stability and quality of life in the whole community
- Quality education supports development of a capable workforce
- Quality education systems further community economic development
- Partnerships allow early identification of qualified, experienced, potential employees

Strong business and education partnerships further these Principles:

1. Engaged Learners

3. Multiple Pathways

4. Personalized Learning

6. Real-Life Experiences

12. Community Partnerships

Flexible Schedules

One of the most consistent recommendations the Task Force found in major research on high school reform is flexibility in the time and place for learning, including establishment of flexible or block scheduling. As described in *Aiming High: Strategies to Promote High Standards in High Schools*, flexible scheduling is described as a “building block for other aspects of school renewal and offers many benefits:”

- With fewer classes per day, teachers can devote more time to actual classroom instruction and less time to classroom management, such as taking attendance and getting students settled into each new class.
- Students can concentrate on a smaller number of courses at one time, typically four instead of the usual six or seven.
- When teachers are responsible for smaller numbers of classes and students, they are able to establish closer relationships with their students, which has been found to be one of the most important influences on student motivation.

- Longer classes allow teachers to design and implement better project- and work-based learning opportunities. Collaboration among teachers and with business partners is also facilitated by flexible scheduling.

Work-based and community-based learning, community service learning, partnerships with employers in curriculum development and delivery and independent study and capstone projects that take students into the workplace and community all “flex” the walls of the high school and provide multiple opportunities for learning. Providing multiple measures of achievement to match these learning opportunities is key to ensuring that high academic standards are applied to non-classroom experiences.

Flexible models for instruction further these Principles:

- | | |
|---------------------------------|---------------------------------|
| 1. Engaged Learners | 4. Flexible Structures |
| 2. Multiple Pathways | 5. Real-Life Experiences |
| 3. Personalized Learning | |

Dual Enrollment

Dual enrollment programs allow high school students to simultaneously earn credit toward high school graduation and a college degree. Guidance is provided to students so that they may align their course selections with their interests and career plans. Effective programs also include an orientation to college studies as well as academic advising and other supports students may need.

The Vermont Public Education Partnership (VPEP), a consortium of college educators, identifies several benefits of dual enrollment:

- Providing challenging curricular options
- Providing accelerated opportunities to earn college credit, saving students time and money
- Presenting educational opportunities not available at the local high school
- Smoothing the transition between secondary and post-secondary education
- Offering students alternative learning opportunities that appeal to different learning styles and diverse levels of motivation

While dual enrollment options are available in many parts of the State, the Task Force believes this option should be available throughout Vermont to provide challenging learning opportunities, multiple pathways of learning and better continuity for all students. As noted by the Vermont Public Education Partnership (VPEP), “high school access to appropriate post-secondary learning becomes an important component of the ‘menu’ of programs and services from which students can design their individualized learning experiences.”

“Some of the most rewarding educational experiences I have had come from work with students in individualized studies.”

Teacher, Peoples Academy

“The best preparation for college is taking a college course.”

Dennis Littky, The Met High School, Providence, Rhode Island

Dual enrollment furthers these Principles:

- | | |
|---------------------------------|---------------------------------|
| 1. Engaged Learners | 4. Personalized Learning |
| 2. Challenging Standards | 5. Flexible Structures |
| 3. Multiple Pathways | 10. Pre-K-16 Continuity |

Using Post-Secondary Data for Systems Improvement

Our renewed vision is that Vermont high schools will prepare each student for a successful adult life. Therefore, we must not only evaluate student performance while students are in school, but also after they graduate. Surveying students after graduation adds yet another important element for assessing the effectiveness of our secondary schools and the relevance of the learning opportunities provided. As post-secondary evaluations evolve, our high schools, communities, families and students should be able to make better choices and decisions about:

- Adequacy of student preparation for post-secondary education
- Adequacy of student preparation for career choice and career success
- Relevance and effectiveness of curricula and learning opportunities
- The relationship between particular pathways to learning and post-secondary success, whether in career or higher education settings

Standardized testing, portfolios, graduation rates and other in-school measures of achievement provide an important snapshot of progress toward the Twelve Principles. Vermont’s high school graduates are an untapped reservoir of information for evaluating and then improving the elementary through secondary school experience for future students.

Incorporation of post-secondary data into the pre-K-12 assessment framework furthers these Principles:

- 2. Challenging Standards**
- 7. Instructional leadership**
- 10. Pre-K-16 Continuity**

Mentoring

Studies consistently show that a supportive one-to-one mentoring relationship between a youth and an older person reduces absenteeism, inspires students to achieve and set high goals, builds confidence and self-esteem and leads to better social and academic performance. Being exposed to real-life work experiences with a mentor allows students to see the direct relationship between academic performance and life achievement. The combined impact gives adolescents crucial support while demonstrating the need to stay in school. An additional benefit is exposure of adults to the high school atmosphere, which leads both parties to a better understanding of the community and the challenges it faces. Effective mentoring programs involve more than recruiting and matching. Successful long-term programs have found that key elements are orientation for mentors and mentees and ongoing support for the mentoring relationship.

Mentoring furthers these Principles:

- | | |
|---------------------------------|------------------------------------|
| 1. Engaged Learners | 6. Real-Life Experiences |
| 3. Multiple Pathways | 7. Instructional Leadership |
| 4. Personalized Learning | 12. Community Partnerships |

Close Relationships Between High Schools and Technical Education Centers

Technical education centers around the country that have succeeded in improving student performance have made high academic performance the foundation of their reforms. Historically in our education system, students choosing technical education centers were those who had been tracked into low-level academic courses at their home schools, and tech school courses failed to incorporate high academic standards that either prepared students for success in the workplace or allowed them to pursue further education. In a turnabout of their missions, successful technical education schools have shifted from providing shared-time vocational programs to offering a comprehensive high school education.

At the same time, the academic high schools that have succeeded in improving student performance have done so by introducing real-life experiences and practical applications into their education programs. Fortunately for students in Vermont, work-based and community-based learning opportunities have expanded greatly in high schools, principally through the five-year School-to-Work initiative that concluded in March 2001. Sustaining career opportunities will require maintenance and further development of the relationships among all educational resources in communities, including technical education centers and sending high schools.

“Rate your success not on the minimum requirements for a high school education, but on how high your students have achieved. Push to raise expectations.”

1994 Essex High School graduate's marginal notes on returned 2000 Alumni Survey

“While families bear the primary obligation to care for their children and to help them become healthy, contributing citizens, other institutions can help families accommodate to a rapidly changing world. A mentor can provide the nurturing, supportive adult relationship absent in the lives of many of our young people.”

Vermont Student Assistance Corporation, *Mentoring Guide*

Research shows that student performance is enhanced when students are provided a mix of academic, technical and real-world experience. A traditional comprehensive high school does not have the resources to do this, nor do technical and career centers that serve multiple sending high schools have the capacity to provide a range of opportunities to each and every student. Better communication and partnerships between high schools and technical and career centers can create systems in which high schools provide a broader range of technical skills and experiences in collaboration with technical education centers where students can access strong academic programs leading toward specific careers.

The Task Force urges communities to foster closer alignment between high schools and technical education centers. Communities can accomplish this by:

- More closely aligning grades 9 to 12 curricula
- Offering encouragement and technical assistance that allow schools to share funding so that technical education centers, communities and high schools have a common financial base
- Ensuring that high schools, communities and technical education centers share a common mission; developing school and community task forces to bring together community members, technical education centers and schools on a regular basis
- Encouraging joint action planning between sending high schools and technical education centers
- Increasing the availability of internship and apprenticeship opportunities that feature a high school and post-secondary connection
- Collaborating on the development of a comprehensive career system and the implementation of career pathways

Strong relationships between sending high schools and technical education centers further these Principles:

- | | |
|---------------------------------|-----------------------------------|
| 1. Engaged Learners | 5. Flexible Structures |
| 2. Challenging Standards | 6. Real-Life Experiences |
| 3. Multiple Pathways | 9. Shared Purpose |
| 4. Personalized Learning | 12. Community Partnerships |

Small Learning Communities

Small learning communities is the name given to a variety of organizational strategies for creating smaller learning groups within a whole school environment. Such strategies include:

- Establishing small learning clusters, “houses,” career academies, magnet schools or other approaches to creating schools within schools
- Block scheduling
- Personal adult advocates, teacher advisory systems and other mentoring strategies
- Reduced teaching loads
- Other innovations designed to create more personalized high school experiences for students and to improve student achievement

The benefits to students are: learning within a smaller, supportive community of peers; developing personal relationships with peers and learning important social interaction skills; developing more personal relationships with teachers and other adults; and feeling safer in a large high school. For teachers, this organizational model provides opportunities for teaming with colleagues for integrated curricula, taking more responsibility for fewer students and developing closer relationships with students.

Citing numerous studies, the U.S. Department of Education Office of Elementary and Secondary Education states that “the size of the learning environment has an indirect effect on student learning ... Essentially, size creates conditions for success, especially when high expectations and standards exist.”

The Task Force recommends that districts with large high schools, especially areas with supervisory union high schools, consider developing small learning communities. By implementing a house system, career academy, faculty advisory or other small learning cluster, schools will be providing safer, more personalized and satisfying learning environments for students and teachers. This is particularly important for students arriving in a large union high school from small, sending elementary and middle schools.

Smaller learning communities further these Principles:

1. **Engaged Learners**
2. **Challenging Standards**
3. **Multiple Pathways**
4. **Personalized Learning**
5. **Flexible Structures**
10. **Pre-K-16 Continuity**

For more examples of effective practices and contact information for the examples described above, please see Appendix A.

“Large schools can have an even more deleterious effect in a predominantly rural community than in areas where people might already be accustomed to malls, large housing developments and the urban-suburban highway system. For these small communities, where most elementary schools do not have more than 200 students, a high school with more than 1,000 students is monstrous.”

Orleans-Essex North Supervisory Union, Smaller Learning Communities Program grant application

Chapter 5

Practices to Consider Phasing Out

At the Kidsfirst Conference in May 2000, Task Force members facilitated the first “Fishbowl” session in which 20 students from several Vermont high schools responded to the question: “If you could create your version of the idea high school, what would it look like?” In a frank discussion of their own high school experiences, students made clear the many challenges we confront as we work on a fresh vision of how our high schools can improve learning for all students.

In considering the structure of the system that we need to change, the Task Force consulted *Promising Futures*, a document developed by the Maine Commission on Secondary Education, which looked at the same conditions described by our students and courageously presented a list of practices that have since outlived their usefulness.

The Task Force believes that substantive improvement in high school learning cannot occur if we hold sacrosanct any of the structures and practices that currently define the high school experience. We recommend that schools, districts and communities carefully evaluate whether the practices outlined in this chapter continue to serve the best interests of all their students. If they do not, they should be phased out and replaced with practices aligned with relevant aspects of the Twelve Principles reported here.



“The manner in which a high school organizes itself and the ways in which it uses time to create a framework affects almost everything about teaching and learning in the school.”

National Association of Secondary School Principals, *Breaking Ranks: Changing an American Institution*

Phase Outs Pertaining to Learning and Teaching

1

PHASE OUT: Master schedules that lockstep students' learning opportunities.

Why? Effective learning activities respond to learners' and teachers' needs. Master schedules often confine activities to short, uniform periods, single-discipline curricula and few hands-on or experiential learning opportunities that address diverse styles and paces of learning.

Consider instead ...

These Principles:

4. Personalized Learning
5. Flexible Structures
6. Real-Life Experiences

These Effective Practices:

- Allocation of flexible blocks of time
- A.M./P.M. Structure: A.M. for class instruction; P.M. for co-curricular, professional development, integrated teams
- Capstone programs and individual studies
- Work-based, community and service learning

2

PHASE OUT: Student loads that preclude effective teaching.

Why? Teachers cannot effectively assign learning tasks and give regular, individualized feedback to students if they are responsible for too many students at one time.

Consider instead ...

These Principles:

1. Engaged Learners
4. Personalized Learning
7. Instructional Leadership

These Effective Practices:

- “House” concept: smaller student groups, core teacher teams from multiple disciplines, greater personalization
- Advisories
- Cross-high school networking (e.g., foreign language programs via Vermont Interactive Learning Network)
- Arranging mentors for all students and teachers

3 PHASE OUT: Classifying and teaching students by ability or interest (tracking).

Why? Students who spend their entire secondary years in lower track, homogeneous groups experience depressed aspirations, lower academic self-confidence and limited achievement.

Consider instead ...

These Principles:

2. Challenging Standards
3. Multiple Pathways
4. Personalized Learning

These Effective Practices:

- Career pathways
- “Houses” that group students by interest or grade
- Personalized learning plans

4 PHASE OUT: Student assessments based only on grades or on forms of learning that require memorization and little application.

Why? Grade point averages (GPA), graduation based solely on grades as the measure of learning and growth and transcripts that report only grades serve few educational purposes and limit everyone’s understanding of achievement and success.

Consider instead ...

These Principles:

2. Challenging Standards
3. Multiple Pathways
4. Personalized Learning
6. Real-Life Experiences
8. Alignment

These Effective Practices:

- Multiple measures to demonstrate achievement of standards, including personal portfolios, state and local measures
- Standards-based graduation and transcripts
- Learning goals, aligned with *Vermont’s Framework of Standards and Learning Opportunities*, set by student, family and faculty advisor
- Capstone projects or graduation challenge experiences

“We are trying to create some level of dissonance. As you embrace the Principles, you will come to understand that many current practices interfere with the journey to high school renewal.”

Vermont High School Task Force

“A 1999 survey of teachers in Vermont found that . . . 89.3 percent of high school teachers did not use a curriculum based on the Vermont standards. Further, in the same survey . . . 63 percent of high school teachers responded ‘no’ when asked if they used a curriculum that was reviewed for alignment with the state standards . . . These figures indicate that continued evaluation of implementation and the role of standards is necessary.”

National Conference of State Legislatures, *Teaching in Vermont: An Inventory of Policies and Practices*

5 PHASE OUT: Curricula and learning based solely on texts and teacher-determined goals, topics and activities.

Why? Curriculum will engage students in meaningful learning when student needs and interests and *Vermont’s Framework of Standards and Learning Opportunities* are the basis for that curriculum.

Consider instead . . .

These Principles:

1. Engaged Learners
2. Challenging Standards
3. Multiple Pathways
8. Alignment

This Effective Practice:

- School as the hub of a comprehensive, community learning network that includes personalized learning plans, capstone projects, year-end learning periods, internships, work-based learning and dual enrollment options

6 PHASE OUT: A co-curriculum that is seen as “extra” curriculum.

Why? All student activities can be re-cast as learning opportunities when they are defined as an essential part of students’ learning experience. Student learning goals, in alignment with *Vermont’s Framework*, can provide a framework for the structure and evaluation of student activities.

Consider instead . . .

These Principles:

3. Multiple Pathways
4. Personalized Learning
6. Real-Life Experiences
8. Alignment
12. Community Partnerships

These Effective Practices:

- Linking goals of student organizations and activities to student progress and action plan
- Establishing goal-based evaluation systems for student activities with shared responsibility for assessment
- Linking individual co-curricular activities to individual learning plans
- Using co-curriculum to provide a full range of learning opportunities and experiences in alignment with *Vermont’s Framework*.

7

PHASE OUT: Diploma requirements that use only Carnegie units based on traditional grading systems.

Why? The diversity of knowledge, skills and personal attributes that must be mastered to succeed in the world today, and the ability to integrate and apply this learning, cannot be categorized or measured by systems developed more than a half-century ago.

Consider instead . . .

These Principles:

1. Engaged Learners
3. Multiple Pathways
5. Flexible Structures
6. Real-Life Experiences

These Effective Practices:

- Using multiple measures to demonstrate achievement of standards
- Establishing standards-based promotion and graduation
- Requiring personal learning plans, personal portfolios and capstone projects
- Requiring work-based and community-based learning opportunities

8

PHASE OUT: Study halls that offer neither student and teacher educational interaction nor true opportunities for learning.

Why? Students should have opportunities for meaningful learning experiences throughout the school day. A study hall that is little more than leisure time is not education time well spent, nor does it optimize the investment we make in a professional faculty, technology and other resources.

Consider instead . . .

These Principles:

1. Engaged Learners
2. Challenging Standards
3. Multiple Pathways
5. Flexible Structures

These Effective Practices:

- Community-based learning, service learning internships and other off-campus learning experiences
- Advisories
- Expanding student awareness of available supports
- Study groups that focus on student-initiated topics
- Regularly scheduled student “fishbowls” with teachers, administrators and the community
- Dual enrollment options

“High schools must abandon or revise the Carnegie unit so that they no longer equate seat time with learning.”

National Association of Secondary School Principals, *Breaking Ranks: Changing an American Institution*

“Central to the public’s belief in higher (educational) standards is what amounts to a philosophical rule of thumb for dealing with children. Ask more from them, and they will do more. Ask less, and they will do just enough to get by.”

Standards and Accountability: A Report from the Public Agenda for the 1999 National Education Summit



Phase Outs Pertaining to School Organization

9 PHASE OUT: The six-hour, five-day school week, September to June school year.

Why? Learning, especially learning that incorporates workplace and community-based projects, should occur when the best opportunities arise.

Consider instead ...

These Principles:

- 3. Multiple Pathways
- 5. Flexible Structures
- 6. Real-Life Experiences

These Effective Practices:

- Allocation of flexible blocks of time for instruction
- Extended or restructured school year
- Distance learning
- Split sessions
- Dual enrollment options

10 PHASE OUT: Limiting faculty organization to discipline-specific groupings.

Why? Teachers need to be part of instructional teams that focus on a core group of students as well as discipline-specific teams. Development of closer teacher and student relationships improves student learning and teacher satisfaction. Cross-disciplinary faculty teams provide additional professional support for teachers.

Consider instead ...

These Principles:

- 4. Personalized Learning
- 5. Flexible Structures
- 7. Instructional Leadership

These Effective Practices:

- Faculty teams that cross department lines
- Study groups for teachers
- Teacher-leaders in each school
- Cross-disciplinary teams of teachers assigned to a house (see small Learning Communities, chapter 4)
- Community-based teaching teams (e.g., art faculty plus local artists)

11

PHASE OUT: Supervision and evaluation that ignore student outcomes.

Why? Meaningful evaluations will address performance criteria related to student learning and growth and be aligned with Vermont’s *Framework of Standards and Learning Opportunities*.

Consider instead ...

These Principles:

- 2. Challenging Standards
- 4. Personalized Learning
- 7. Instructional Leadership
- 10. Pre-K-16 Continuity

These Effective Practices:

- Use of longitudinal outcomes data (e.g., post-secondary enrollment and retention, student surveys)
- Peer evaluation and conferencing to evaluate student work
- Use data from educational support teams and action planning to develop teacher and administrator roles, responsibilities and subsequent evaluations

“One of the most critical barriers to providing professional development activities is not resources, but time. Without adequate non-instructional time during the school day, it is difficult to provide the sustained, curriculum-oriented opportunities encouraged by the Vermont Standards Board for Professional Educators (VSBPE), that have been proven by research to be more effective in raising student achievement.”

National Conference of State Legislatures, *Teaching in Vermont: An Inventory of Policies and Practices*

12

PHASE OUT: Job descriptions or work assignments that are predicated on the assumption that teachers are working only when instructing groups.

Why? Time for planning, authentic assessment, individual student advisories, professional development and student and parent conferences need to be recognized as part of a teacher’s work week.

Consider instead ...

These Principles:

- 5. Flexible Structures
- 7. Instructional Leadership
- 12. Community Partnerships

These Effective Practices:

- Flexible use of time, including adjustment to teaching load, recognition of non-classroom time that includes professional development and individual student advisories
- Redefining educators’ roles to include other professional responsibilities such as developing teacher mentoring programs for all new teachers, educational support team activities, work- and community-based learning coordination, teacher-leader roles, advisories, business-sponsored internships, etc. (see glossary)

13 PHASE OUT: Faculty meetings and structures that limit time for sharing professional information and perspectives.

Why? Faculty involvement in decisions about students, instructional matters, curriculum and educational policy will enhance a school's effectiveness.

Consider instead . . .

These Principles:

8. Alignment
7. Instructional Leadership
9. Shared Purpose

These Effective Practices:

- Faculty meetings jointly planned and delivered by faculty
- Meetings that group faculty in a variety of configurations and interdisciplinary teams
- Opportunities for faculty members to present student work that will serve as the focus for specific discussion
- Using faculty meeting time to align instructional programs with Vermont's *Framework*.

“When you hear faculty referring to in-service day as ‘donut day,’ you know they aren’t finding it meaningful. Filling, maybe, but not fulfilling.”

Bob Stanton, Assistant Superintendent, Lamoille South Supervisory Union

14 PHASE OUT: Decision-making processes limiting the role of students and families in key decisions regarding present and future learning opportunities.

Why? Involvement in decision-making increases student and family engagement in the learning process and improves school accountability to the community.

Consider instead . . .

These Principles:

1. Engaged Learners
4. Personalized Learning
9. Shared Purpose
11. Family Participation

These Effective Practices:

- Flexibility in scheduling and resources to give parents access to educators through office hours, voice mail, Internet bulletin boards, student-led conferences, etc.
- Personal learning plans
- Community dialogue nights
- Inclusion of students on school improvement teams and other leadership groups

15

PHASE OUT: Professional development that is not integrated with daily professional practice.

Why? The most effective professional development is continuous and focuses on educators' learning needs—needs that, if answered, will improve an educator's ability to meet student learning needs. Educators themselves are best able to identify these needs and to plan professional development activities to meet them.

Consider instead . . .

These Principles:

- 7. Instructional Leadership
- 9. Shared Purpose

These Effective Practices:

- Linking the school's professional development plan to the district plan and the Five Standards for Vermont Educators developed by the Vermont Standards Board for Professional Educators
- Emphasizing professional development models that are embedded in the work of teaching, such as teacher-leaders and peer coaches
- Alignment of professional development plans with national staff development council standards

“The fullest development of the intellect today makes it possible for them to continue developing visions of ever more remarkable human beings. The best way to predict the future, however, is to invent it now.”

Arthur Costa, Ed.D

Phase Outs Pertaining to District, Community and State Support



16

PHASE OUT: Policies and procedures of the school, district and state that inhibit creativity and collaboration among faculty, between high schools and technical education centers and between secondary schools and their communities.

Why? Policies and procedures, including contractually directed requirements, should function principally to serve student learning and to foster the attainment of *Vermont's Framework of Standards and Learning Opportunities*. Stakeholders have often worked in isolation, developing significant plans that have resulted in competition instead of collaboration to benefit student learning.

Consider instead ...

These Principles:

- 7. Instructional Leadership
- 9. Shared Purpose

These Effective Practices:

- Evaluating school policies for harmony with learning goals
- Aligning district schedules to enable collaboration in curriculum and professional development
- Seeking waivers and removing barriers to innovation
- Building community partnerships resulting in collaborations on curricula and fostering enhanced learning opportunities for students and professional development for educators.
- Creating mentoring relationships that cross building and delivery system boundaries
- Providing opportunities for teachers to create integrated units of study and complete internships with businesses
- Organizing “fishbowl” sessions to let students, families and the community understand each others’ concerns and needs (see Appendix F)

17

PHASE OUT: Parent and school organizations that focus on special interests and/or on fundraising for activities that have no clear educational mission or accountability framework.

Why? Activities sponsored by the school should be examined in light of the school's mission and goals and the contributions made to student learning and development. If activities are not aligned with the core mission, they should be recast to provide authentic learning opportunities or considered for discontinuation.

Consider instead . . .

These Principles:

- 8. Alignment
- 9. Shared Purpose
- 11. Family Participation

These Effective Practices:

- Educating parent and school support organizations about the school's vision and mission
- Linking all student-parent groups to action planning and using the planning process to focus community groups
- Linking goals of parent organizations to student progress and establishing a goals-based evaluation system with shared ownership
- If an organization cannot implement needed changes, consider whether it is worth retaining



Chapter 6

Conclusion

High Schools on the Move (HSOM) celebrates those who are already on the journey to high school renewal and innovation and offers those who are not the encouragement to take the first steps. In this final chapter, we reflect on Vermont's readiness to embrace a long-term, systemic, secondary school change effort and on the voice of Vermont's secondary students and youth.

Despite a decade long standards-based K-12 reform movement, Vermont's secondary schools have not engaged as easily as its elementary schools. Secondary school change contains its own issues and challenges. The Task Force believes that *HSOM* adds a fresh perspective to secondary school change and offers a framework through which to engage in this worthy effort. The report lends support to *Vermont's Framework of Standards and Learning Opportunities*. Vermont's current school improvement strategy is centered upon the *Framework* and can be greatly enhanced by *High Schools on the Move*.

Vermont has developed most of the capacity needed to implement and refine a statewide process to guide high school renewal by personalizing the experience for each student. The Vermont Department of Education looks forward to collaborating with its partners to build capacity for this journey.

Recommendations for Long Term, Systemic Change

Based on the Task Force's work, the Department of Education is working to establish a Center for High School Renewal and Innovation and a network of schools moving toward systemic secondary school change. This center and network will have three purposes:

- To recognize, support and reward high schools that implement any of the Twelve Principles or that adapt existing systems to increase student engagement in learning
- To form a network of schools learning from each other and serving as demonstration sites and models for systemic change
- To organize a statewide movement that continuously renews Vermont's commitment to quality secondary education by connecting related initiatives at different schools, providing technical support for local adaptation and publishing the results of promising strategies

Appendix B, Assessment Rubric for the Twelve Principles, includes a set of indicators for assessing school functioning in relation to the Principles.



Vermont's Change Strategy

The High School Task Force asserts that the high school experience cannot be personalized through a series of minor adjustments. Changing any component of the high school experience requires changing the whole structure. Consequently, Vermont's challenge is to work with every community to change the structure of every high school. The Task Force has identified four strategies to initiate this statewide change:



- **Publication and distribution of *High Schools on the Move: Renewing Vermont's Commitment to Quality Secondary Education*, which informs schools and communities about the need for change and provides the Twelve Principles as a framework for that change**
- **Creation of and support for a network of schools engaged in change as well as administration of grants that support comprehensive change efforts**
- **Establishment of a High Schools on the Move network to foster experimentation and cross-school interaction among participating schools**
- **Formation of a Center for High School Renewal and Innovation to support statewide change, coordinate education policy and facilitate long-term adaptation and growth**

These strategies for change are already in motion. Publishing this document is the first step toward implementing the Task Force's vision, and the Department of Education recently issued a first solicitation for career academy grants, funded through the Federal High School Reform State Grant program. The River Valley Consortium (which includes Bellows Falls Union High School, Green Mountain Union High School, Black River High School, River Valley Technical Center), Peoples Academy, South Burlington High School and Mount Abraham Union High School each received a grant.

As schools try to incorporate the Twelve Principles, they will need places to visit where they can see change happening. This fall, Peoples Academy in Morrisville, Vermont will host design studios highlighting effective practices in place at their school that support the principles.

A design studio is a carefully planned visit during which the visiting team engages in strategic planning. Instead of simply sending a team to visit, a high school going to a design studio identifies a focus for their visit, based on materials sent by the host school. The visiting team analyzes the gap between current practices in their school and the vision for the practices that they would like to implement before attending. During the design studio, visiting teams reflect on what they are learning. The host school shares "lessons learned" from its reform journey as well as some of the history of its reform effort. This sharing helps the visiting school prepare for change. We hope that in the future more schools will host design studios to share their promising practices, facilitate learning and encourage change.

Additionally, the Department of Education is developing a secondary school focus team, which will promote the recommendations in *HSOM* and coordinate and support secondary change efforts at the department. Work is also beginning to create the Center for High School Renewal and Innovation.

These first steps are encouraging and offer great hope for the future. More than one-third of Vermont's high schools worked with department staff members to develop proposals for career academy grants. Many high schools that applied for a career academy grant reported that the process of examining the Twelve Principles in relation to current practices at their schools was extremely useful; most said they look forward to reading this report and continuing their exploration into high school renewal. This provides compelling evidence that Vermont's high schools, and their leaders, are ready for change. The Vermont Department of Education will work diligently to pursue future funding for its high school renewal and innovation vision.

As the Task Force worked, its members tried to keep in mind students' voices in answering so many fundamental questions about the high school experience: What do secondary students want? What do they fear? What are their hopes, dreams and aspirations? In the Task Force's work with Vermont students and youth, seven themes emerged:

Relevancy and application: High school students want to be able to connect the knowledge they gain in school to the challenges they will face as adults. In short, they want to be engaged learners.

Caring adults: High school students want daily contact in small classes with adults who understand their interests, respect their talents and care as much about students' personal experiences as their academic achievements.

Safety: Students want to pursue their aspirations free from fear of oppression and/or persecution because their values make them different from others.

Being known and valued: Students want to be recognized by adults and other students for their unique contributions to the school and community.

Respect: Students want to be granted respect for their individuality, not just their membership in a group, class or achievement level. They want to return respect to those who treat them with respect.

Personal Interests and Aspirations: High school students want to pursue their own investigation of learning, not a prescribed regimen of unrelated classes determined by rules, requirements and obscure traditions. They want to experience personalized learning and instruction, and they want opportunities to develop leadership skills.

Multiple pathways: Students want multiple avenues to achieve graduation. They do not want a one-size-fits-all experience.





Some Final Thoughts

For final emphasis, this report closes with statistics that illustrate the potential costs if leadership is not provided for high school reform. More than 50 percent of the schools identified for technical assistance in 2001 were secondary schools; there is no indication this figure will decrease. The dropout rate in Vermont, although lower than the national average of 26 percent, hovers at 20 percent. This means that one out of every five Vermont students who starts high school does not finish with his or her class. Ninety-five percent of youth incarcerated in Vermont dropped out of high school. It is abundantly clear that without a high school credential, young people face diminished futures.

This report outlines the pragmatic wisdom and inspiration needed to help renew secondary education in Vermont. It contains tools and strategies to assist communities and schools to meet the needs of their diverse learners. We know that, developmentally, the secondary years are a time of great transition for youth. In Vermont, we want each one of our young people to transition to adulthood successfully. The Task Force urges you to use this report in the hopes of achieving that goal.

Appendix A

Examples of Effective Practices

School and Employer Partnerships

Mt. Abraham High School and Geiger of Austria
Ed McGuire
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Dual Enrollment

Linking Learning to Life and College Connections
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Mt. Abraham High School and Community College of Vermont
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Champlain Valley Union High School SummerLink
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Vermont Academy of Science and Technology (VAST)
Vermont Technical College Program
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Rutland/Stafford Center-Vermont Technical College Partnership
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Arlington High School, Burr & Burton Academy
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Walden Project at Vergennes High School and Community College of Vermont
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Dropout Prevention and Recovery

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Professional Development

U-32 Junior-Senior High School and Washington Central Supervisory Union
Writing Across the Curriculum: Professional Development for grades 9-12

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Multiple Measures

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North Country Union High School Electronic Portfolio
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Essex High School
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Small Learning Communities

Champlain Valley Union High School Houses
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North Country Union High School
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Orleans-Essex Supervisory Union
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Personal Learning Plans

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Peoples Academy Individualized Studies

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Mt. Abraham Union High School

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Twinfield Union High School (Renaissance Program)

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Flexible Models

Peoples Academy Individualized Studies

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Career Pathways

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Career and Technical Education Centers and High Schools

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Post-Secondary Data

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Vermont State Colleges (VSC), Vermont Department of Education and
University of Vermont (UVM) longitudinal study on performance of
Vermont high school graduates at VSC and UVM
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Mentoring

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Graduation Challenge and Capstone Projects

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Champlain Valley Union High School (Graduation Challenge)

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Rutland High School (Capstone)

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Cabot High School Individual Opportunities to Achieve (IOTA)

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Winooski High School (Senior Project)

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Appendix B

Assessment Rubric for the Twelve Principles*

1	No action has been taken on this indicator.
2	We are beginning to address this indicator.
3	Our school has developed a strategy to address this indicator, and we have made substantial progress towards implementation.
4	Our school has fully adopted this strategy to address this indicator, and we continually adjust the implementation plan to improve its impact on quality learning.

Data Code	Principle 1: Engaged Learners – Students are engaged learners who are responsible for and actively involved in their own learning.	1	2	3	4
1.0	It is an expectation of the school community that students meet the Vital Results in <i>Vermont's Framework of Standards and Learning Opportunities</i> . The expectations of high academic achievement, active citizenship and preparation for career, life and work are stressed.				
1.1	Teachers and administrators have developed agreed upon strategies to assist students in becoming engaged learners.				
1.2	A sustainable system of professional development and support is present to provide teachers and administrators with the skills necessary to create and support environments where engaged learning is valued and evident.				
1.3	Staff members work together to create a learning environment in which students persist in their education, make informed choices, develop into competent problem-solvers and critical thinkers and are actively responsible for their own learning. This commitment is evident in the school's action plan.				
1.4	Avenues exist for students to use portfolios and exhibitions to demonstrate achievement of the Vital Results, Fields of Knowledge and Learning Opportunities outlined in <i>Vermont's Framework</i> .				
1.5	Opportunities exist for students to be involved in school leadership, including but not limited to committee work, teacher hiring, parent and family involvement in program design and input on policy.				
1.6	Plans exist to recruit and retain teachers and administrators who are interested in supporting the school's vision to personalize learning.				
1.7	Staff members work together to build a culture that results in the school being a desirable place to work.				
1.8	Comprehensive counseling programs that facilitate students' academic, social, personal and career development are in place and used.				
1.9	Student government plays a vital role in the school decision-making process. Students have opportunities to develop leadership skills.				
1.10	The school has implemented strategies to increase the number of students taking the SATs.				

*Adapted from the United States Department of Education's New American High Schools Program.

Data Code	Principle 2: Challenging Standards – Each student is expected to demonstrate that he or she has met challenging standards based on <i>Vermont’s Framework of Standards and Learning Opportunities</i> or national standards.	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
2.0	The curriculum is rigorous and aligned to state and national standards. Indicators of student performance and examples of work reflect that standards have been developed and met.				
2.1	Goals and objectives regarding challenging standards flow from the school’s vision and are evident in the school’s action plan.				
2.2	The school is replacing “general track” and “lower level” classes with courses containing rigorous academic content. Heterogeneous grouping for students is valued and supported.				
2.3	High universal expectations are supported by a variety of learning opportunities. Students demonstrate success in a variety of ways including meeting challenging standards through capstone projects, completing career academies, portfolio demonstration, passing Advanced Placement exams and successfully completing dual enrollment courses for college credit.				
2.4	School improvement efforts strongly support providing challenging academic opportunities for each student.				
2.5	The school uses performance-based assessments.				
2.6	Students successfully pass Advanced Placement exams.				
2.7	The school and students show evidence of meeting New England Association of Schools and Colleges (NEASC) standards.				

Data Code	Principle 3: Multiple Pathways – High schools provide each student with a variety of learning opportunities and multiple pathways to meet graduation requirements.	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
3.0	All students develop personal learning plans (PLPs) that include academic goals and the means to achieve them.				
3.1	PLPs are in place reflecting a pre-assessment of students’ learning styles, interest inventories, aspirations, current skills and knowledge. PLPs are supported with an array of pathways to meet standards for graduation.				
3.2	The school has a written staff development plan, adjusted annually, which is data-driven and directly related to providing a variety of learning opportunities and multiple pathways for students to meet graduation requirements.				
3.3	Professional development assistance and special materials are provided to help teachers increase their focus on varied learning opportunities through personalized learning and the creation of multiple pathways.				
3.4	All students are able to demonstrate their learning with multiple methods including standardized assessments, student portfolios and demonstration projects. The use of portfolios, capstone projects and exhibitions are encouraged to demonstrate mastery of graduation requirements.				
3.5	Teachers, parents, business representatives and community members review projects and offer suggestions for continued student growth and development.				
3.6	Students can choose from a variety of methods to meet challenging graduation requirements.				
3.7	Students have access to alternative education programs. Dropout prevention, recovery and truancy programs are in place. Staff members are aware of these programs and make appropriate referrals.				
3.8	Transcript reviews take place in order to determine whether the student experience is rich and varied.				
3.9	The school is developing standards-based transcripts.				

Data Code	Principle 4: Personalized Learning – High schools create small, personalized and safe learning environments that provide students with stable support from adults, caring connections to mentors and a sense of belonging.				
		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
4.0	All students develop personal learning plans that include academic goals and the means to achieve them.				
4.1	The high school experience is appropriately constructed to ensure a successful transition to college, work and adulthood.				
4.2	Students have opportunities to develop post-high school plans that will contribute to smooth transitions to college, work and adulthood.				
4.3	Special senior-year programs are in place to make the final year of high school as productive and meaningful as possible.				
4.4	Procedures to support the establishment of transition programs from middle to high school exist locally. The school and district have transition plans from primary and middle grades to high school.				
4.5	Protocols exist to support multiple pathways to graduation beyond satisfying Carnegie units.				
4.6	Each student at this school is valued for his or her unique talents, interests and aspirations. Students are treated with respect.				
4.7	Each student has an adult member of the school community who serves to personalize that student's educational experience.				
4.8	Programs are in place within the community to regularly acknowledge and celebrate student success.				
4.9	Programs are in place to build awareness and appreciation of diversity and cultural issues.				

Data Code	Principle 5: Flexible Structures – High school schedules and organizations are flexible to allow time for varied instructional activities and to provide an integrated learning experience. Learning is the constant; time is the variable.				
		<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
5.0	The school's mission statement clearly values flexible structures that support personalized learning.				
5.1	Curriculum and instruction are designed to support expectations for student learning.				
5.2	The schedule supports the school's mission and provides opportunities for off-campus learning.				
5.3	Time frames are adapted to accommodate learning activities.				
5.4	All students participate in several job shadowing or internship activities during high school.				

Data Code	Principle 6: Real-Life Experiences – Students learn about careers and college opportunities through real-life experiences and adult interaction, including work-based learning, service learning, career exploration, job shadowing and career academies.	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
6.0	The school has established expectations for student learning that specifically state what all students should know and be able to do by the time they graduate. These expectations reflect the skills, competencies, concepts and understandings identified by district, state and national standards and by professional organizations.				
6.1	Each student in this school has the opportunity to nurture his or her individual talents and aspirations through applied learning, job shadowing, service learning and career exploration experiences.				
6.2	The school provides opportunities to extend student learning beyond traditional course offerings and the school campus.				
6.3	Teachers participate in experiences to build their knowledge of applied learning, engage in career exploration and use work-based learning and service learning as strategies to create varied learning opportunities and multiple pathways.				
6.4	The school has policies in place that support work-based learning and have risk management strategies in place, such as procedures for transporting students and ensuring proper insurance coverage. Teachers, students, staff, parents, business representatives and community members are aware of these policies.				

Data Code	Principle 7: Instructional Leadership – Adults in the school use research-based practices and effective administrative and instructional strategies to support increased student performance.	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
7.0	The mission statement and expectations regarding instructional leadership guide the procedures, policies and decisions of the school and are evident in the school’s culture.				
7.1	The school has a document developed by the faculty that defines the school’s mission and academic expectations for student learning and has specific, measurable ways to indicate successful performance.				
7.2	Research-based professional development programs sustain, build, attract and retain effective, skilled administrators and teachers.				
7.3	The school has a demonstrated commitment to changing teaching pedagogy to increase student performance.				
7.4	Teachers receive professional development regarding high school renewal and innovation and the need to personalize learning for all students.				
7.5	Teachers with fewer than five years of classroom experience are given intensive support and supervision.				
7.6	Teachers view this school as a desirable place to work.				

Data Code	Principle 8: Alignment – Supported by research-based professional development, high schools align their curricula, instruction and assessment with Vermont’s <i>School Quality Standards</i> .	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
8.0	The mission statement and expectations of the school are aligned with Vermont’s <i>School Quality Standards</i> and guide the school’s policies, procedures and decision-making process.				
8.1	The mission statement and expectations for student learning were developed by the school community and approved and supported by the faculty, the school board and any other schoolwide governing organization.				
8.2	The school uses a variety of data to regularly review the mission statement and expectations for student learning to assure that they reflect student needs, community expectations, the district mission and state standards.				
8.3	The content of the curriculum is intellectually rigorous and provides opportunities for the authentic application of knowledge and skills.				
8.4	The curriculum is integrated and aligned and emphasizes depth of understanding over breadth of coverage.				
8.5	The school has effective curricular coordination and articulation between and among all academic areas within the school as well as with district sending schools to ensure that expectations for student learning are addressed.				
8.6	Standardized assessments are aligned with college entrance requirements.				

Data Code	Principle 9: Shared Purpose – Every high school adopts and publicizes a compelling vision and mission that uses a results-oriented approach to promote continuous improvement.	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
9.0	The mission statement of the school is developed jointly by faculty, students, parents and community members. It represents the school community’s fundamental values and beliefs about student learning and the purpose of the school and is consistent with or identical to the district’s mission statement.				
9.1	The school’s mission statement is clearly communicated and understood by all stakeholders and drives all significant school practices and policies.				
9.2	The school uses a variety of data for regular reviews of the mission statement and expectations for student learning to assure that they reflect student needs, community expectations, the district mission and state standards.				
9.3	Student exit interviews are used to evaluate students’ satisfaction with their high school experiences and to give students the opportunity to make suggestions for improvement. A process for parental input is included.				
9.4	For planning purposes, the school collects data on post-high school activities and success rates of its graduates.				

Data Code	Principle 10: Pre-K-16 Continuity – Every high school is a member of a pre-K-16 education system and is a partner with middle schools, colleges and post-graduation training programs to help students make successful transitions.	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
10.0	The school and district foster productive business/community/higher education partnerships to support student learning, ensure students enter the public school system with an appropriate level of readiness for school and assist students in making successful transitions to adulthood.				
10.1	Students have access to career academies, apprenticeships and dual enrollment opportunities. Articulation agreements with post-secondary institutions are in place.				
10.2	The school and district seek to build collaborative relationships to pool financial resources, share expertise and pursue outside sources of funding in order to support effective pre-K-16 systems.				
10.3	Secondary and post-secondary faculty members team-teach courses.				

Data Code	Principle 11: Family Participation – Families are active participants in their young adults’ education and have varied opportunities to volunteer, serve on decision-making groups, assist students in setting learning goals, monitor results and support learning at home.	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
11.0	The mission statement and expectations of family participation guide the procedures, policies and decisions of the school and are evident in the school’s culture. Family advisory groups play active roles in the school culture.				
11.1	The faculty and staff engage students and their families as partners in education and encourage family participation in school programs and support groups.				
11.2	All parent conferences are conducted in a manner that facilitates family involvement in a student’s educational experience.				
11.3	Students play an active role in parent/teacher conferences.				
11.4	Families are knowledgeable of school services and make appropriate use of those services.				

Data Code	Principle 12: Community Partnerships – Every high school forms active partnerships with families, community members, business people, civic leaders and policy-makers to ensure fiscal support and to expand student learning opportunities.	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
12.0	School decisions, policies, procedures and district plans support community partnerships that expand student learning opportunities.				
12.1	The school has formed active partnerships, including dual enrollment and articulation agreements, with post-secondary institutions to expand student learning opportunities.				
12.2	The school works with local technical education centers, the Department of Employment and Training, the Department of Education, the Agency of Human Services, Workforce Investment Boards and other relevant parties to expand student learning opportunities and ensure development of the high-level skills necessary for workforce development.				
12.3	The school offers work-based learning experiences that include high school, business and post-secondary components.				
12.4	Service learning opportunities exist to enrich student learning and to meet community needs.				
12.5	Students participate in developmentally appropriate mentoring and School-to-Work programs.				
12.6	College students are involved in mentoring programs with secondary students.				
12.7	Secondary students are involved in mentoring programs with elementary and middle school students.				

Cross Reference Table of the Twelve Principles, NEASC Standards and Vermont's School Quality Standards

Vermont High School Task Force: <i>High Schools on the Move</i> 12 Principles	New England Association of Schools and Colleges (NEASC) Standards	Vermont's School Quality Standards
<p>Principle 1: Engaged Learners – Students are engaged learners who are responsible for and actively involved in their own learning.</p>	<p>2.4 The content of the curriculum shall be intellectually challenging, rigorous and provide opportunities for the authentic application of knowledge and skills.</p> <p>3.2 Instructional practices shall include practices that personalize instruction; make connections across disciplines; engage students as active self-directed learners; involve all students in higher order thinking to promote depth of understanding; and provide opportunities to demonstrate the application of knowledge and learning.</p> <p>5.5 Student grouping patterns shall reflect the diversity of the student body, foster heterogeneity and be consistent with the school's mission and expectations for student learning as well as current educational research.</p> <p>6.1 The school shall allocate resources, programs and services so that all students have an equal opportunity to achieve the school's stated academic expectations for student learning and to participate in the educational program.</p>	<p>2120.4 Needs-Based Professional Development</p> <p>2120.8 Conditions, Practices and Resources of Schools</p> <p>2120.8.1 School Leadership, Staffing and Support Services</p> <p>2120.8.1.1 School Leadership</p> <p>2120.8.1.3.1 Comprehensive System of Support Services; Educational Support Team</p> <p>2120.8.1.3.2 School Counselors</p> <p>2120.8.2 Staff</p> <p>2120.8.2.2 Instructional Practices</p> <p>2120.8.3 School Facilities and the Learning Environment</p> <p>2120.8.3.3 School Facilities and Learning Environment</p>
<p>Principle 2: Challenging Standards – Each student is expected to demonstrate that he or she has met challenging standards based on <i>Vermont's Framework of Standards and Learning Opportunities</i> or national standards.</p>	<p>1.2 The school shall have established expectations for student learning that reflect the school's mission statement; identify high expectations for all students in academic, civic and social areas; specifically state what all students should know and be able to do by the time they graduate from the school taking into account the skills, competencies, concepts and understandings identified by district, state and national standards and by professional organizations.</p>	<p>2111 Adoption of Student Performance Standards and a System of Continuous Improvement in Student Performance</p> <p>2120.8.2.1 Graduation Requirements</p> <p>2120.8.2.2 Instructional Practices</p> <p>2120.2.2 Development and Implementation of Local Comprehensive Assessment System</p>

Vermont High School Task Force: <i>High Schools on the Move</i> 12 Principles	New England Association of Schools and Colleges (NEASC) Standards	Vermont's School Quality Standards
<p>Principle 2: Challenging Standards – Each student is expected to demonstrate that he or she has met challenging standards based on <i>Vermont's Framework of Standards and Learning Opportunities</i> or national standards.</p>	<p>2.9 There shall be an ongoing review and evaluation of the curriculum that takes into account assessments of student performance in achieving the school's academic expectations for student learning.</p> <p>4.3 Teachers shall use a variety and range of classroom assessment strategies to determine student knowledge, skills and competencies to assess student growth over time.</p>	<p>21206. Access to Technical Education</p> <p>2120.1 Action Plans</p> <p>2120.8.1.3.1 Comprehensive System of Support Services; Educational Support Team</p> <p>2120.8 Conditions, Practices and Resources of Schools</p> <p>2120.8.1.2 Staff</p> <p>2120.8.1.1 School Leadership</p> <p>2120.8.2.1 Graduation Requirements</p>
<p>Principle 3: Multiple Pathways – High schools provide each student with a variety of learning opportunities and multiple pathways to meet graduation requirements.</p>	<p>5.5 Student grouping patterns reflect the diversity of the student body, foster heterogeneity and are consistent with the school's mission and expectations for student learning as well as current educational research.</p>	<p>2120.8.1.3 Support Services</p> <p>2120.8.1.3.1 Comprehensive System of Support Services; Educational Support Team</p> <p>2120.8.1.3.2 School Counselors</p> <p>2120.8.1.3.3 Health Services</p> <p>2120.8.1.3.4 Interagency Teams</p> <p>2120.8.2.1 Graduation Requirements</p> <p>2120.8.2.3 Curriculum Leadership, Content and Coordination</p> <p>2120.8.3.3 School Facilities and Learning Environment</p>
<p>Principle 4: Personalized Learning – High schools create small, personalized and safe learning environments that provide students with stable support from adults, caring connections to mentors and a sense of belonging.</p>	<p>3.2 Instructional strategies shall include practices that personalize instruction; make connections across disciplines; engage students as active self-directed learners; involve all students in higher order thinking to promote depth of understanding; and provide opportunities to demonstrate the application of knowledge and learning.</p> <p>3.3 Teachers shall provide formal and informal opportunities for students to assess their own learning.</p> <p>7.7 The physical plant and facilities shall meet all applicable federal and state laws and be in compliance with local fire, health and safety regulations.</p> <p>6.3 Each student shall have an adult member of the school community who serves to personalize his or her educational experience.</p>	

Vermont High School Task Force: High Schools on the Move 12 Principles	New England Association of Schools and Colleges (NEASC) Standards	Vermont's School Quality Standards
<p>Principle 5: Flexible Structures – High school schedules and organizations are flexible to allow time for varied instructional activities and to provide an integrated learning experience. Learning is the constant; time is the variable.</p>	<p>2.6 The school shall provide opportunities to extend student learning beyond the normal course offerings and the school campus.</p> <p>5.6 The schedule shall support the school's mission and expectations for student learning and should be designed to provide the most effective implementation of curriculum and instruction.</p> <p>5.9 The school shall provide opportunities for teachers to collaborate within and across departments.</p> <p>5.5 Student grouping patterns shall reflect the diversity of the student body, foster heterogeneity and be consistent with the school's mission and expectations for student learning as well as current educational research.</p> <p>5.4 The organization and structure of the educational program shall promote the school's mission and expectations for student learning.</p>	<p>2120.6 Access to Technical Education</p> <p>2120.8.2.2 Instructional Practices</p> <p>21208.1.1 School Leadership</p> <p>2120.8.1.2 Staff</p>
<p>Principle 6: Real-Life Experiences – Students learn about careers and college opportunities through real-life experiences and adult interaction, including work-based learning, service learning, career exploration, job shadowing and career academies.</p>	<p>7.2 The school shall foster productive business/community/higher education partnerships that support student learning.</p> <p>7.11 School board decisions, policies, procedures and district plans shall support the implementation of the school's mission and expectations for student learning.</p>	<p>2120.8.1.2 Staff</p> <p>2120.8.1.3.2 School Counselors</p> <p>2120.8.2.2 Instructional Practices</p>
<p>Principle 7: Instructional Leadership – Adults in the school use research-based practices and effective administrative and instructional strategies to support increased student performance.</p>	<p>2.10 The school shall commit sufficient time, financial resources and personnel to the review and evaluation of curriculum.</p> <p>2.11 The professional staff shall be actively involved in the development and revision of the curriculum.</p> <p>2.12 Professional development activities shall support the development and implementation of the curriculum.</p> <p>3.4 Teachers shall use feedback from a variety of sources, such as other teachers, students, supervisors, and parents, as a means of improving instruction.</p>	<p>2111 Adoption of Student Performance Standards and a System of Continuous Improvement in Student Performance</p> <p>2120.1 Action Plans</p> <p>2120.2 Assessment</p> <p>2120.4 Needs-Based Professional Development</p> <p>2120.8 Conditions, Practices and Resources of Schools</p> <p>2120.8.1.2 Staff</p>

Vermont High School Task Force: <i>High Schools on the Move</i> 12 Principles	New England Association of Schools and Colleges (NEASC) Standards	Vermont's School Quality Standards
<p>Principle 7: Instructional Leadership – Adults in the school use research-based practices and effective administrative and instructional strategies to support increased student performance.</p>	<p>3.6 Discussion of instructional strategies, practices and student work shall be a significant part of the professional culture of the school.</p> <p>3.7 Adequate time and financial resources shall be committed to ensuring the continuous improvement of instruction.</p> <p>4.3 Teachers shall use a variety and range of classroom assessment strategies to determine student knowledge, skills and competencies and to assess student growth over time.</p> <p>4.5 Teachers shall use the results of classroom assessments of student learning to improve their instructional practices.</p> <p>4.6 Teachers shall meet to discuss and share student work and the results of classroom assessments for the purpose of revising the curriculum and instructional strategies.</p> <p>5.11 Student success shall be regularly acknowledged, celebrated and displayed.</p>	<p>2111 Adoption of Student Performance Standards and a System of Continuous Improvement in Student Performance</p> <p>2120.1 Action Plans</p> <p>2120.2 Assessment</p> <p>2120.4 Needs-Based Professional Development</p> <p>2120.5 Staff Evaluation</p> <p>2120.8.2.2 Instructional Practices</p> <p>2120.8.2.3 Curriculum Leadership, Content and Coordination</p>
<p>Principle 8: Alignment – Supported by research-based professional development, high schools align their curricula, instruction and assessment with Vermont's <i>School Quality Standards</i>.</p>	<p>1.2 The school shall have established expectations for student learning that reflect the school's mission statement; identify high expectations for all students in academic, civic and social areas; specifically state what all students should know and be able to do by the time they graduate from the school taking into account the skills, competencies, concepts and understandings identified by district, state and national standards and by professional organizations.</p> <p>4.8 The school's professional development programs shall provide opportunities for teachers to develop a broad range of assessment strategies for classroom use.</p> <p>5.9 The school shall provide opportunities for teachers to collaborate within and across departments.</p> <p>5.12 The climate of the school shall be positive, respectful and supportive, resulting in a sense of pride and ownership.</p>	<p>2111 Adoption of Student Performance Standards and a System of Continuous Improvement in Student Performance</p> <p>2120.1 Action Plans</p> <p>2120.2 Assessment</p> <p>2120.4 Needs-Based Professional Development</p> <p>2120.5 Staff Evaluation</p> <p>2120.8.2.2 Instructional Practices</p> <p>2120.8.2.3 Curriculum Leadership, Content and Coordination</p>

Vermont High School Task Force: High Schools on the Move 12 Principles	New England Association of Schools and Colleges (NEASC) Standards	Vermont's School Quality Standards
<p>Principle 9: Shared Purpose – Every high school adopts and publicizes a compelling vision and mission that uses a results-oriented approach to promote continuous improvement.</p>	<p>1.2 The school shall have established expectations for student learning that reflect the school's mission statement; identify high expectations for all students in academic, civic and social areas; specifically state what all students should know and be able to do by the time they graduate from the school taking into account the skills, competencies, concepts and understandings identified by district, state and national standards and by professional organizations.</p> <p>5.4 The organization and structure of the educational program shall promote the school's mission and expectations for student learning;</p> <p>5.6 The schedule shall support the school's mission and expectations for student learning and should be designed to provide the most effective implementation of curriculum and instruction.</p> <p>5.12 The climate of the school shall be positive, respectful and supportive, resulting in a sense of pride and ownership.</p>	<p>2111 Adoption of Student Performance Standards and a System of Continuous Improvement in Student Performance</p> <p>2120.8.1.1 School Leadership</p> <p>2120.8.2.1 Graduation Requirements</p>
<p>Principle 10: Pre-K-16 Continuity – Every high school is a member of a pre-K-16 education system and is a partner with middle schools, colleges and post-graduation training programs to help students make successful transitions.</p>	<p>7.1 The school shall engage students and their families as partners in the students' education as well as encourage their participation in school programs and parent support groups.</p> <p>7.2 The school shall foster productive business/community/higher education partnerships that support student learning.</p> <p>7.11 School board decisions, policies, procedures and district plans shall support the implementation of the school's mission and expectations for student learning.</p>	<p>2120.8.1.3 Support Services</p> <p>2120.8.1.3.2 School Counselors</p> <p>2120.2.2 Development and Implementation of Local Comprehensive Assessment System</p> <p>2120.8.1.3.4 Interagency Teams</p> <p>2120.8.2.3 Curriculum Leadership, Content and Coordination</p>

Vermont High School Task Force: <i>High Schools on the Move</i> 12 Principles	New England Association of Schools and Colleges (NEASC) Standards	Vermont's School Quality Standards
<p>Principle 11: Family Participation – Families are active participants in their young adults' education and have varied opportunities to volunteer, serve on decision-making groups, assist students in setting learning goals, monitor results and support learning at home.</p>	<p>4.7 Teachers shall communicate to students and their families how student work and progress are being assessed.</p> <p>4.10 The administration and faculty shall use assessment data to determine student success in meeting the school's stated civic and social expectations and regularly report the findings to the public.</p> <p>5.1 The principal shall provide leadership in the school community by building and maintaining a vision, direction and focus for student learning.</p> <p>5.7 School leaders shall accord meaningful roles in the decision-making process to students, parents and staff members to promote an atmosphere of participation, responsibility and ownership.</p> <p>5.12 The climate of the school shall be positive, respectful and supportive, resulting in a sense of pride and ownership.</p> <p>6.7 Student support personnel shall enhance student learning by interacting and working cooperatively with professional and other staff and using community resources to address the academic, social, emotional and physical needs of students.</p> <p>6.8 There shall be a system for effective, ongoing communication with students, parents/guardians and school personnel designed to keep them informed about the types of available student support services and about identified student needs.</p>	<p>2120.8.1.1 School Leadership</p> <p>2120.2.2 Development and Implementation of Local Comprehensive Assessment System</p> <p>2120.3 Reports of Results</p>

**Vermont High School Task Force:
High Schools on the Move 12 Principles**

Principle 12: Community Partnerships – Every high school forms active partnerships with families, community members, business people, civic leaders and policy-makers to ensure fiscal support and to expand student learning opportunities.

**New England Association of Schools
and Colleges (NEASC) Standards**

4.9 The administration and faculty shall use agreed upon levels of performance, indicators of successful accomplishment and other data to assess the progress of students in achieving the school’s stated academic expectations for student learning and regularly report the findings to the public.

4.10 The administration and faculty shall use assessment data to determine student success in meeting the school’s stated civic and social expectations and regularly report the findings to the public.

5.1 The principal shall provide leadership in the school community by building and maintaining a vision, direction and focus for student learning.

5.7 School leaders shall accord meaningful roles in the decision-making process to students, parents and staff members to promote an atmosphere of participation, responsibility and ownership.

5.12 The climate of the school shall be positive, respectful and supportive, resulting in a sense of pride and ownership.

6.7 Student support personnel shall enhance student learning by interacting and working cooperatively with professional and other staff and using community resources to address the academic, social, emotional and physical needs of students.

6.8 There shall be a system for effective, ongoing communications with students, parents/guardians and school personnel designed to keep them informed about the types of available student support services and about identified student needs.

Vermont’s School Quality Standards

2120.3 Reports of Results

2120.8.2.3 Curriculum Leadership, Content and Coordination

2120.8.1.2 Staff

School and Student Performance Data

Standardized Tests

With implementation of the New Standards Reference Examinations (NSREs) in 1995, the Vermont Department of Education has been able to report school-specific assessment data. When the NSREs were implemented, the announced performance goal for all schools was that 80 percent of students should meet or exceed standards. On those 1995 exams, fewer than half of students tested (85 percent) met the standards in five of the seven categories tested. Scores have not shown significant improvement since the inception of NSRE testing.



	1998-99 School Year	1999-00 School Year	2000-01 School Year
Mathematical Concepts	33%	36%	37%
Mathematical Problem Solving	27%	29%	34%
Mathematical Skills	53%	56%	59%
Reading/Basic Understanding	46%	45%	55%
Reading/Analysis and Interpretation	44%	42%	51%
Writing/Rhetorical Effectiveness	39%	38%	42%
Writing/Conventions	76%	75%	73%

In 2000, a much higher percentage of Vermont high school students took the Scholastic Achievement Test (SAT) than is typical nationwide—70 percent versus 44 percent nationally—which placed Vermont fifth in the nation for student SAT participation. Higher participation rates are strongly correlated with lower scores; the College Board speculates that highly motivated, academically strong students make up a higher percentage of test takers in states with low SAT participation.

Vermont’s combined verbal and mathematic average score of 1021 was only slightly higher than the national average of 1019. However, when Vermont was compared to all other states with a participation rate of 60 percent or higher, the State ranked third highest in combined average scores in 2000.

Statewide 2000 Advanced Placement (AP) exam scores were also slightly above the national average: on a scoring scale of 1 (lowest score) to 5 (highest score), almost 69 percent of Vermont exams were scored at 3 or higher. This was an increase of 3 percent over the prior year and compared to 64 percent nationally. (Participation rates for AP exams are not available for comparison.)



Decision: College Versus Career

According to the Vermont Student Assistance Corporation's senior survey of the Class of 1999, 75.8 percent of post-secondary bound students had made the decision to pursue higher education by the 10th grade. Ninety-four percent of seniors with an A average and 74.7 percent with a B average planned to continue their education immediately after high school.

By comparison, 57.5 percent of career-bound seniors made the decision not to continue their education after their final year in high school. Sixty percent of these career-bound seniors planned to pursue some form of post-secondary education in the future, with 45.2 percent expecting to enroll sometime within the next year. The majority of seniors with a C average or below had no immediate plans to continue their education.

Females, college bound seniors and seniors with a grade point average of B or better tended to rate their high school instruction better than did males, career-bound seniors or seniors with a grade point average of C or below.

Post-secondary attendance

In 1998, 49.8 percent of Vermont high school graduates actually enrolled in college. More than half of these students (53.6 percent) left Vermont to attend college, the third highest migration rate in the country.

Dropout rate

An "event" dropout rate is the type of rate that has typically been collected and reported in Vermont and nationally for years. The event rate describes the percentage of students who drop out from grades 9 through 12 in a given year. For a number of years, this rate has consistently remained at 4 percent to 5 percent.

A more descriptive approach is to track the proportion of students who enter high school in 9th grade and do not graduate – this is called a cohort rate. The Vermont Department of Education's first report of cohort dropout rates, issued in 2000 shows that roughly one out of five Vermont students entering 9th grade drops out of the cohort group.

Estimated Vermont Cohort Dropout Rate: 1999-2001

1999:	17.9 percent
2000:	19.1 percent
2001:	18.5 percent

Community Issues

Incarceration of our youth

Ninety-five percent of incarcerated youth ages 16 to 22 do not have a high school diploma; most dropped out in 9th or 10th grade. Of this percentage, about half have special education histories. Incarcerated youth fall within the bottom 20th percentile range on basic skill testing, according to the Wide Range Achievement Test. It costs about \$24,000 per bed per year to house an incarcerated youth.

Risk behavior

While high schools cannot and should not be responsible for all aspects of a student's life, the risk behavior of students affects the learning environment. According to the 2001 Vermont Youth Risk Behavior Survey:

- Suicide plans are decreasing. Overall, 13 percent of students have made a suicide plan during the past 12 months, compared to 16 percent in 1999, 18 percent in 1997 and 22 percent in 1995.
- Sixty-nine percent of students have consumed alcohol (more than a few sips), ten percent binged on alcohol on three or more days during the past 30 days. Binge drinking is defined as having five or more drinks of alcohol within a couple of hours.
- Drug use is related to suicide, early and unwanted pregnancy, school failure, delinquency and transmission of sexually transmitted diseases, including HIV. One out of four American adolescents is estimated to be at very high risk for the consequences of alcohol and other drug problems.
- Following a decade of decline, marijuana use has begun to rebound. More than one-quarter of students have tried marijuana. Overall, 26 percent of students have used marijuana during the past 30 days.
- Overall, 8 percent of students reported smoking tobacco daily. Tobacco use, which accounts for one of every five deaths in the United States, is the most preventable cause of death.
- Fourteen percent of students have tried inhalants. Inhalant use is the deliberate inhalation or sniffing of common products, such as glues and cleaners, or some gases intended for medical or dental purposes to obtain a "high."
- Seven percent of students have used cocaine
- Twenty six percent of students reported being offered, sold or given an illegal drug on school property.



How to Use This Document for Community Dialogue

Organizing a Community Dialogue

Dialogue not debate. Developing the shared purpose of the Twelve Principles requires that each community member has an opportunity to hear and understand the views, concerns and desires of others. That’s why we suggest that the secondary school renewal process begins with a community dialogue. Free and open dialogue, incorporating give and take among members of a community, increases a group’s understanding of the ideas presented. Debate, on the other hand, where sides are staked out early and opponents attack one another, divides communities.

Facilitation. Consider using experienced facilitators for group discussions. Community members who fulfill this role may be educators, planners, trainers, business people or personnel from social service organizations.

Use small groups; review one chapter at a time. It is difficult to grasp all of the ideas in this report in one sitting or through individual review and study. We suggest talking about one section at a time in small groups using the guidelines described below.



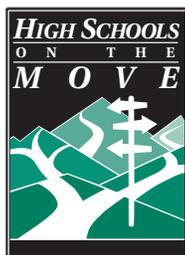
Text-Based Discussion Guidelines

- A. Group members read a section of the report before meeting
- B. Group members establish ground rules for the discussion, such as:
 - Listen actively
 - Build on what others say
 - Expose or suspend assumptions
 - Silence and pauses are okay
 - Converse honestly; there is no need to go through the facilitator
 - Let the conversation flow as much as possible without raising hands or using a speakers list
 - Emphasize clarification, amplification and implications of ideas
 - Refer to the text; challenge others to refer to the text
 - Watch your own “air time,” both in terms of how often you speak, and in terms of how much you say when you do
- C. Conclude the one- to two-hour dialogue with a written summary of ideas that could work in the school

Talking About the Report

Chapter One: A Call to Action

The Task Force outlines what is at stake in secondary education in Vermont and why communities should join the effort to renew and improve our schools.



Suggested discussion questions:

- What is the meaning and purpose of education?
- How widespread is concern about the quality of our secondary schools?
- What are the concerns of students and faculty?
- What is your response to the call for reform?
- What challenges do we face if we try to significantly reform our secondary schools?
- Where does responsibility fall for leading the effort?
- Where will leadership come from?

Chapter Two: Twelve Principles for High School Renewal

The values and beliefs described in this chapter support the Task Force's recommendations.

The Assessment Rubric for the Twelve Principles outlined in Appendix B provides indicators for each of the Twelve Principles. Using these indicators to assess your high school will give you a picture of how far along your school may be toward implementing a Principle. Therefore, completing this survey as a group is a possible method for organizing the discussion. Small groups could take one Principle and its set of indicators for review, or a larger group could review the Principles and indicators in sequence.

For a more general discussion, begin each faculty, board or PTA meeting with a dialogue around one Principle. Each Principle should evoke a rich dialogue about the meaning and purpose of schooling. The groups can also review the related effective practices (specific programs in schools that fulfill the vision of the Principle) to further enrich understanding of a Principle's impact on a school.

Suggested discussion questions:

- In what ways does the mission/vision/belief statement of your school support or conflict with these Principles?
- What would these Principles look like in practice?
- In what ways would your school look and feel different if these Principles were implemented?
- What would it take to improve the school's performance as assessed by the indicators?
- Which Principles would be easiest to implement, given the current culture and the institutional history of your high school? Why?

- Which Principles would be more difficult to implement? Why?
- Make your own list of the Principles in order of priority for your high school.

Chapter Three: Current Realities: Secondary Education, Schools and Communities

The data outlined in this chapter provide a background for the community's dialogue about Vermont's secondary schools.

Suggested discussion questions:

- Does this picture of public education in Vermont represent the current reality in your community?
- In what ways is your school data the same or different from state averages?
- What other data do you have about your school's resources and about student and teacher performance and satisfaction?
- Of the observations and challenges presented, which are of particular interest or concern in your school? Why?
- What do students say about this current reality?
- Do different members of the community (e.g., students, faculty, parents) find some of the data more compelling or interesting than others? Why?

Chapter Four: Effective Practices for Initiating Change

While many school districts in Vermont are using effective approaches to elevate student performance, the examples in this chapter were chosen to clearly demonstrate how the Twelve Principles can be put into practice.

Groups wanting more detail on these practices or wanting to find supporting evidence will find the bibliography and the Examples of Effective Practices (Appendix A) helpful. One method for organizing this discussion is to provide groups with a selection of readings or a guest resource person who can lead discussion about one of the effective practices.

Suggested discussion questions:

- Do you have any of these practices in place now?
- What are the responses of students, faculty, parents and employer-partners to these practices?
- Why did the school decide to implement a particular practice?
- What did you learn during implementation that could make the next process smoother?
- Are any elements of any of the practices already in place?
- Which practices support your priority Principles? Compare practices that support your priorities.
- Do some practices seem easier to sell to the community?
- What steps are necessary to implement any of these practices?





Chapter Five: Practices to Consider Phasing Out

This chapter outlines practices that are no longer useful in secondary schools. If we are serious about fulfilling the Twelve Principles and implementing effective practices, these ineffective practices must be retired.

This chapter may tempt members of the group to move from dialogue to debate. While schools are continuously asked to embrace new ideas, they may have a difficult time letting go of the old ways of doing business. However, the traditions of the secondary institution need to be seriously challenged if we are to fulfill the promise of providing the world class education that every Vermont student deserves.

Suggested discussion questions:

- What would you like to see phased out in your school?
- Are there policies, practices or traditions that do not support your central purpose or mission?
- Bearing in mind the Principles that you believe should be your early priorities, which outdated practices should be the first to go from your school?

Chapter Six: Conclusion

This chapter reflects on Vermont's readiness to embrace long-term, systemic secondary school change. Vermont's change strategy is discussed and the current state of the change effort is reviewed. The seven themes that emerged from the work of the Task Force with students and youths are listed. Final thoughts regarding the need for high school reform are offered. Readers can use this chapter as an entry point into discussion about the high school reform change process.

A self-assessment tool, the Assessment Rubric for the Twelve Principles, is included in Appendix B. Each discussion group could be responsible for one category of questions on a self-assessment tool. Results could be reported back to all groups for further dialogue, or all groups could review the same assessment category and compare results. There should be a process for developing a consensus on the entire self-assessment.

Next steps would include revisiting Chapter 2 for each Principle needed to address a school's weak areas. This stage of the dialogue should focus on which actions would improve the school's performance on the assessment for a given Principle, which obstacles are expected, what support or resources are available, etc.

Groups can also revisit Chapter 4 to identify effective practices that support priority Principles. Chapter 5 will help you to identify the undesirable practices that may be responsible for low performance; it also suggests effective practices to consider in their place. Discussion groups can also consider how to use the remaining tools offered in this report in their schools and communities.

Suggestions discussion questions:

- How will your school and community work together to personalize the high school experience through changing the structure of your high school?
- Where is your high school and community in terms of its readiness to embrace high school reform?
- How could you envision connecting to The Center for High School Renewal and Innovation and the High Schools on the Move network?
- How would the lives of secondary students and youth in your community change if the seven themes that they identified were implemented and achieved?
- What barriers to high school reform must be eliminated in your school and community to make high school renewal a reality?



Appendix G: Recommendations and Challenges

Because of the importance of the recommendations and challenges offered by the Task Force, suggested discussion questions for Appendix G are included in this section.

Suggestions discussion questions:

- How do district policies and procedures make it difficult to implement the Principles or effective practices?
- How does the contract negotiated with teachers affect implementation?
- What impact do the recommendations have on certification, graduation requirements and other state laws and rules?
- What impact does funding (both the current process of funding and the amount of funding) have on the entire school improvement process? How can state policy-makers be convinced to make the changes necessary to support high school renewal?

Kids Speak: Organizing a Fishbowl Session

This is the script used by the High School Task Force to conduct fishbowl sessions with students. It easily can be adapted for use by anyone acting as moderator of a fishbowl session with students, adults or educators.

In a fishbowl session, participants sit in a circle along with a facilitator. Observers, who sit in a concentric circle surrounding the participants, do not participate in the discussion unless they are invited to introduce themselves. The purpose of the fishbowl is to allow the participants to express themselves, to engage in dialogue together and to allow the observers to listen to and personally reflect on what the participants are saying.

Script for Kids Speak fishbowl session

1. Welcome to Kids Speak:

- Facilitator: This is a focused forum designed to provide some of our area high school students with an opportunity to speak candidly about their hopes and dreams, their concerns about the future and their attitudes and assessments regarding their relationships with adults ...

2. Introductions:

- The facilitator introduces himself or herself and states his or her reason for wanting to facilitate the session. Usually, the facilitator includes some personal information about himself or herself of interest to high school students.
- Facilitator to students: Please tell us your name, your year in school and the high school that you attend.
- Facilitator to students and audience: Let's find out who our observers are. We've invited parents, teachers, administrators, employers and others to join us today. Please introduce yourselves.





3. Format

- Facilitator: In this session, we will follow a fishbowl format.
- If you are familiar with a fishbowl format, you know that the participants in the inner circle are the only folks who engage in the discussion. For students in the circle, your task is to engage freely in the discussion. The parameters are to try and keep your comments focused, clean and honest but respectful. The role of those of you on the outside ring is to silently observe, listen and learn from what these young people have to offer. I will remind you that the deepest learning comes from trying to understand the perspective of the speaker.
- I will serve as the facilitator and the students will do most of the talking. I have a list of questions that we will use to get the ball rolling and then we will see where the discussion takes us. Once we get started, I will put a question on the floor and invite any student to comment.
- After the first round of questions, I will provide the observers with an opportunity to pose a question to me for possible inclusion in the second round of the discussion. Any questions about format?

4. Think, pair, share:

- Facilitator: I want to start the discussion by asking each of you to take a minute and think about this question: *If you could create your version of the ideal high school what would it look like, and how would you describe the relationships that would exist between students and adults?*
- Take a minute or two to share your thoughts with the person beside you. Then we will open it up for a general discussion.

Questions for general discussion:

- A. When you think about the ideal adult relationships you described, how does that image stack up with your current reality?
- B. Believe it or not, everybody wants to know what high school kids are thinking about these days? Let's start off with a positive focus, what are some of your dreams for the future and how are the adults in your life helping you to take steps to realize those dreams?
- C. From your point of view, what is really working well in high school, what should we be doing more of?
- D. Many students tell me that "high school is a joke" Is there an element of truth to that statement? If so, how so? Can we do anything about it?

E. Approximately one in five Vermont High School students will not graduate with the same students they started with as freshman. In your opinion, why do students drop out, fall behind their peers or transfer to other schools?

Let's shift gears:

F. For the past two years, what students told me they wanted most from the adults in their lives was mutual respect. They wanted to feel like they were known and valued for who they were as individuals, not just for their membership in a group, a class or an achievement level. How are the adults in your lives measuring up on that scale?

G. What do *you* need and want most from your adult relationships?

H. Complete this sentence.....“The one thing I wish adults would try to understand about high school kids is.....”

I. Do you feel that you belong in your school? Do you feel valued and respected in your community? If not, what suggestions do you have to change this situation?

J. If the adults in your life really valued your uniqueness, what would that look like and feel like? Use any context that makes sense, i.e. school, work, sports, family, etc.

End of round one. (Take a stretch break. Entertain any questions the audience would like to pose.) Get student input: What else would you like to talk about today?

K. Do you feel psychologically and physically safe in your high school? Describe adult behavior that can contribute or detract from a safe environment?

L. Is school violence an issue in Vermont? If so, what steps should we take to address it, if not, what should we do to prevent it from becoming an issue in our schools?

M. In your opinion, what role should parents play in the decisions that high school students make about their friends, the courses they take and how they choose to spend their free time?

N. If you had to give the adults in your life a grade for the level of support that they are providing you, what would the grade be, and what suggestions would you give them to improve their performance?

O. Who are your heroes? What does someone have to do to get on your list? Is a hero automatically a role model?

P. Should heroes be forgiven when they fall from grace? How does disappointing behavior on the part of adult's effect your view of them as role models?





Q. Think about a recent or past incident that was covered in the media, in which you came away feeling disappointed or ashamed about the way in which adults had behaved. Why did you feel let down?

R. How many of you watch “Reality TV” (survivor etc)? What do you think about the behavior you witness? Based on your core values, what type of individual would you vote off the Island, kick out of the house, or reject for the big date and why?

S. What are the two or three biggest challenges that young people are facing today? What can adults do to help you meet these challenges in a constructive and healthy manner?

Group/partner task:

T. If you were named to the Governor’s youth council, and he asked for your advice on how best to spend \$1 million dollars for youth development and youth services, what advice would you give him?

➡ Fishbowls were conducted by Bob Stanton, Assistant Superintendent, Lamoille South Supervisory Union. If you would like to know more about the fishbowl process, please contact him at (802) 888-4541.

We Believe:

Recommendations from the Vermont High School Task Force

1. Schools need to develop long-term plans to implement the Twelve Principles identified by the High School Task Force.
2. Schools need to work to develop a culture of continuous improvement, consistently evaluating and improving effectiveness of their activities.
3. A review of rules, state policies, legislation and employment contracts must be conducted to identify necessary modifications that will allow for implementation of the Twelve Principles.
4. Schools should adopt achievement of the standards outlined in *Vermont's Framework of Standards and Learning Opportunities* as a graduation requirement and allow students to demonstrate achievement through rigorous multiple measures and challenging pathways.
5. Schools should avoid the use of high stakes testing as a route for assessing student achievement.
6. Schools should implement an array of standards-based graduation requirements such as content-area courses, independent studies, portfolios, NSREs, dual enrollment options, capstone or senior projects and community- and work-based experiences.
7. Schools need to redesign their courses and learning experiences to allow students to create evidence that they have met the standards in Vermont's *Framework*.
8. Vermont schools need to develop and implement a standards-based transcript that is useful to the student and his or her family, post-secondary institutions and employers as a record of a student's accomplishments and skills.
9. Schools should identify and provide supports for students to ensure success early in their education.





10. Schools need to support and expand students' aspirations by providing each student with access to an effective support system.
11. Communities need to engage in the process of high school renewal and to develop local and community structures that provide each student with meaningful adult support.
12. Communities should develop multi-year plans that outline how they will phase out practices that inhibit high school graduation and that suggest practices to replace them with elements of the Twelve Principles.
13. Communities and schools need to work together to ensure that organized learning experiences for students exist throughout a community.
14. Clearly articulated educational initiatives and educational tools must exist and be used for school improvement.
15. Schools should strive to develop leadership that values connectivity and collaboration to meet the needs of each student.
16. Support systems for school leaders that promote consistency in leadership and provide tools to support and manage change need to be developed.
17. Schools need sustainable funding plans to support implementation of the Twelve Principles.
18. Structures and supports that give each student access to meaningful adults must be created.
19. Achievement should be fostered through rigorous standards and challenging pathways not through high stakes testing.
20. Efforts to support truancy and dropout prevention through valuing each student and his or her aspirations and interests should be developed; early identification, intervention and support become priorities.
21. Collaborative efforts, such as developing coordinated interagency services that will help all Vermont youth transition successfully to adulthood and significantly lower the dropout rate, must be developed and implemented. These efforts would engage resources of various partners such as the Department of Education, Department of Employment and Training, Economic Development, Agency of Human Services, Human Resources Investment Council (HRIC), Workforce Investment Boards (WIB), HRIC Youth Council and other interested parties.

Challenges

Challenge: To continue to raise the proportion of students graduating and to graduate youth who are at risk or who are no longer in our schools; to increase the value of a high school diploma by ensuring that all graduates can perform at skill and knowledge levels described in *Vermont's Framework of Standards and Learning Opportunities*.

Challenge: To know well and to value every student and her or his learning style, needs, and aspirations; to meet the needs of an increasingly diverse youth population living in communities that may be unaccustomed to change.

Challenge: To ensure access to personalized learning for all students regardless of socioeconomic background, gender or educational history without overtaxing the fiscal and human resources of our secondary schools.

Challenge: To develop meaningful, effective and economical models for rigorous statewide assessments of student performance that recognize the unique characteristics of students and school districts while promoting mastery of Vermont's standards.

Challenge: To provide leadership, resources and conditions for students, educators and parents in all Vermont communities that will offer students varied opportunities to master Vermont's standards and to achieve their own personal learning goals; to permit achievement of the goal of statewide standards-based graduation; to ensure alignment of learning goals through a pre-K-16 continuum in each community.

Challenge: To authentically engage students, teachers and parents in learning experiences that are rigorous and that students find relevant to their current needs and future ambitions.

Challenge: To develop systems for students and their parents to make important decisions about current educational activities and future goals and to encourage participation in shaping school procedures that significantly affect student learning.

Challenge: To incorporate post-secondary achievement data into the pre-K-12 assessment framework; to use that data to develop support systems and learning opportunities throughout the transitional years that will assist every Vermont youth in preparing for a productive and fulfilling life.

Challenge: To focus the primary resources and energies of every Vermont secondary school on learning, which is its most central mission; to refocus school activities to serve the central mission coherently; to validate multiple accountability systems and requirements imposed on our schools.



Appendix H

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Appendix I

Glossary of Terms

Advanced Placement (AP)

Demanding academic curriculum through which high schools offer college-level courses to their students. By taking an AP course and scoring well on the national exam, high school students may acquire college credit for mastering college-level subjects.

Advisories

Regularly scheduled meetings between teachers and students that cover a continuum of possibilities from serving as a touchstone for students to create caring environments in school to personalizing a student's course of study.

Block scheduling

A means of reconfiguring the school day. The traditional school day is typically divided into six or seven classes, each lasting from 45 minutes to 55 minutes. With few exceptions, classroom instruction begins and ends within the allotted time period. Blocked courses may be scheduled for two or more continuous class periods or days to allow students greater time for laboratory or project-centered work, field trips or work-based learning and special assemblies or speakers.

Capstone project

A multi-stage project that allows a student to integrate learning from a variety of settings and sources while demonstrating mastery of Fields of Knowledge and Personal Skills identified in *Vermont's Framework of Standards and Learning Opportunities*. A capstone project provides students with the opportunity to develop a sound work ethic, high academic achievement, effective social skills, good citizenship and a sense of altruism that leads to informed decision-making and responsible action. Sometimes called a graduation challenge.

Center or network for high school renewal and innovation

Clearinghouse supporting field-based research, policy development, local and state renewal initiatives and best practices that increase the ability of each high school in Vermont to adopt the Twelve Principles for High School Renewal. This resource will support the dissemination and implementation of *High Schools on the Move: Renewing Vermont's Commitment to Quality Secondary Education* and will actively support the High Schools on the Move initiative.

Community-based learning coordinator

A person located in a school who coordinates community learning opportunities, job shadows and internships for students and sometimes teachers.

Community dialogue night

A forum for interested students, teachers, parents, administrators, district staff and business leaders to use *High Schools on the Move: Renewing Vermont's Commitment to Quality Secondary Education* to discuss the current state of a high school.





Community service learning

Learning that occurs while performing service. Service learning activities define a problem in the community and develop a solution to the problem; all related activities are tied to the curriculum in school.

Community service

Performing service to a community for its betterment.

Compact

A formal agreement among leaders to work together for local educational reform. Compact representatives may include community decision-makers, school superintendents, college presidents and heads of business organizations as well as superintendents, principals, teachers, parents and unions. Compacts provide a structure of mutual accountability because all participants agree to work together and individually to support group goals. Efforts on the part of compact members may include creating employment opportunities for students, helping to restructure educational systems and providing local labor market information. The Boston Compact was formed in 1982 by business leaders who felt they could help raise the quality of high school graduates; they approached local authorities and educators with a proposal for school reform. In exchange for districtwide improvements in student academic performance and a reduction in the total dropout rate, business leaders promised to increase jobs and college assistance to high school graduates.

Dual enrollment

A program of study allowing high school students to simultaneously earn credits toward a high school diploma and a post-secondary degree or certificate. Written agreements formalize the outcome of studies undertaken.

Educational support system (ESS)

A comprehensive set of supports and services that is integrated with the general education curriculum. ESS is found at both the state and local levels. The system is designed to provide students with needed accommodations and supplementary aids and services regardless of their eligibility for categorical programs. The goal is to increase to the greatest extent possible the capacity of general educators to meet diverse student needs in the classroom and to avoid over-reliance on special education services.

Education support team (EST)

Team that includes a variety of teaching and support personnel who assist teachers in planning and providing services and accommodations for students in need of classroom supports or enrichment activities in order to meet state and local standards. ESTs also gather data and identify patterns to inform the school's action plan to strengthen the overall capacity of an ESS. See also educational support system.

Effective practices

Research-based, proven practices.

Fishbowl

A facilitated discussion that allows students to respond to the question: “If you could create your version of the ideal high school, what would it look like?” Students talk openly and honestly about their feelings regarding high school. Students sit in a circle of chairs surrounded by an outer circle of observers, creating a fishbowl effect.

Graduation challenge

Varies between schools, but generally provides students with a culminating senior-year project. See also capstone projects.

High Schools on the Move

A network of high schools serving as multiple demonstration sites for systemic change in Vermont high schools. These high schools will provide a showcase to highlight effective practices linked to the Twelve Principles.

Internship

An opportunity for a student to work for an employer for a specified period to learn about a particular industry or occupation. Activities may include special projects, a sample of tasks from different jobs or tasks from a single occupation. Internships may or may not include financial compensation.

Teacher internships

Worksite experiences of at least two weeks in duration for teachers. During this time, teachers may work at a particular position to learn about the skills necessary for success in that field. Links are then made to instructional practice.

Met School

A small public high school open to all students in Rhode Island. It educates one student at a time, so each student’s curriculum is determined by his or her unique interests, background and learning styles. All students work on projects in real-world settings related to their interests and develop strong relationships with teachers and project mentors. The Met enrolls families, not just students. Every Met graduate has been accepted to college. Learn more from the *Met Portfolio*, the book *One Kid at a Time*, and the video *Learning Journeys*.

Personalized learning plan (PLP)

Recognizes the individuality of student learning styles, histories, interests and aspirations and allows the student, in concert with school staff and family members, to individualize the learning experience and demonstrate readiness for the adult world. Because of the central role each student fulfills in the construction of his or her own PLP, the student’s own ambitions, talents and interests become the unifying elements of the learning process. PLPs encompass anywhere from one year to all four years of high school and the experience and impact is far deeper than a series of single events, such as job shadowing or other work-based or community-based learning experiences.





Personalized learning

Recognizes the individuality of student learning styles, histories, interests and aspirations allowing the student, in concert with school staff and his or her family, to individualize the learning experience and to demonstrate his or her readiness for the adult world.

Pre-K-16 continuity

Coordination from kindergarten through post-secondary education to ensure Vermonters have access to education and training opportunities that will help them build sound economic and civic futures.

School Improvement Team

Team at the Vermont Department of Education available to assist schools identified for technical assistance with school improvement efforts.

School-to-Work (STW)

A program that provides a means of attaining high academic standards. To help students direct their own educations, STW encourages, among other things, exposure to a broad variety of career options – starting with speakers and field trips in elementary school and progressing to academically connected internships in a high school student’s field of interest. The underlying goal is to provide students with knowledge and skills that help them be well prepared for college, additional training or a well-paying job directly out of high school.

Teacher leader groups

Groups of teachers learning and working together to improve their skills and capacities to educate students.

Twelve Principles for High School Renewal

A set of principles drawn from more than 18 research-based models of whole school reform for high schools and around which schools may organize their leadership, instruction, professional development, missions and structures.

Vermont Interactive Learning Network (VT ILN)

An interactive learning network designed to broaden learning opportunities for students and teachers by connecting schools throughout the state. Sponsored by Verizon.

Vermont Standards Board for Professional Educators (VSBPE)

Board that develops the standards that Vermont educators are expected to meet for licensure.

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Goals

During its first two year, the Delaware P-20 Council has focused its efforts on the transition between three otherwise disconnected levels of public education:

- Pre-school to Middle School
- Middle School to High School
- High School to College or a Working Environment

Smooth transitions between these levels will make the schools more efficient and effective while raising the level of student achievement.

The P-20 Council is also working toward closing the achievement gap between majority and minority students.

The keys to achieving the goals of the P-20 Council include:

- A challenging curriculum taking into account expectations at the next level.
- Increased teacher recruitment, education, and professional development, especially in critical needs areas.
- An advisement or support system to help identify student problems early and prepare them for success across all levels of education.

P-20 Council

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REVVING THE EDUCATION ENGINE

Effectively Aligning Education, Workforce and Economic Development Policy

Bruce Vandal, Director Postsecondary Education and Workforce Development

Developed with support from the KnowledgeWorks Foundation



Education Commission
of the States



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ECS is the only nationwide, nonpartisan interstate compact devoted to education at all levels. Our core purpose is to enlighten, equip and engage key education leaders — governors, legislators, chief state school officers, higher education officials, business leaders and others — to improve education across the 50 states and U.S. territories.



Introduction

As the national unemployment rate exceeds 10% and state postsecondary institutions report significant enrollment increases, it is clear that many are looking to the U.S. education system to provide the education and training they will need to find livable-wage jobs.¹ Unfortunately, many students looking for a clear and short pathway through postsecondary education to a new job find a system that is hard to navigate, where transitions from one level of education to the next are complicated and often result in students wasting valuable time and resources that don't lead to a postsecondary credential.

President Obama's ambitious goal for the United States to have the highest postsecondary attainment rate in the world by 2020 — and his clear belief that improving the education levels of citizens will result in economic opportunities for them and economic growth for the nation — means that it is important to explore how to leverage public investments in education to support state and regional economic and workforce goals.

The Education Commission of the States (ECS), with support from the KnowledgeWorks Foundation (Cincinnati, Ohio), dedicated 2009 to engaging state education, business and workforce development leaders in the creation of a framework for how states can more effectively align education, economic development and workforce development policy. ECS devoted meetings of its Steering Committee and its National Forum on Education Policy in 2009 to the topic. In addition, ECS engaged other leaders across the nation through two online polilogues or “jams” facilitated by Knowledge in the Public Interest (KPI) to identify promising practices and model policies that enable students to effectively complete postsecondary training and enter the workforce.

Making the Case for Alignment

In remarks made in July, 2009 at Macomb Community College in Michigan, President Obama made it clear that the economic well-being of the United States is inextricably linked with the education attainment level of Americans.² It was in this context that he reiterated his goal for America that, “by 2020, this nation will once again have the highest proportion of college graduates in the world.”³

Data on potential earnings by education level back up President Obama's contention that higher college attainment rates will result in greater economic prosperity for Americans. Census data reveal that increases in potential earnings for those who complete some postsecondary education over those who only have a high school diploma or equivalent range from \$9,000 for an associate degree to \$20,000 for a bachelor's degree.⁴

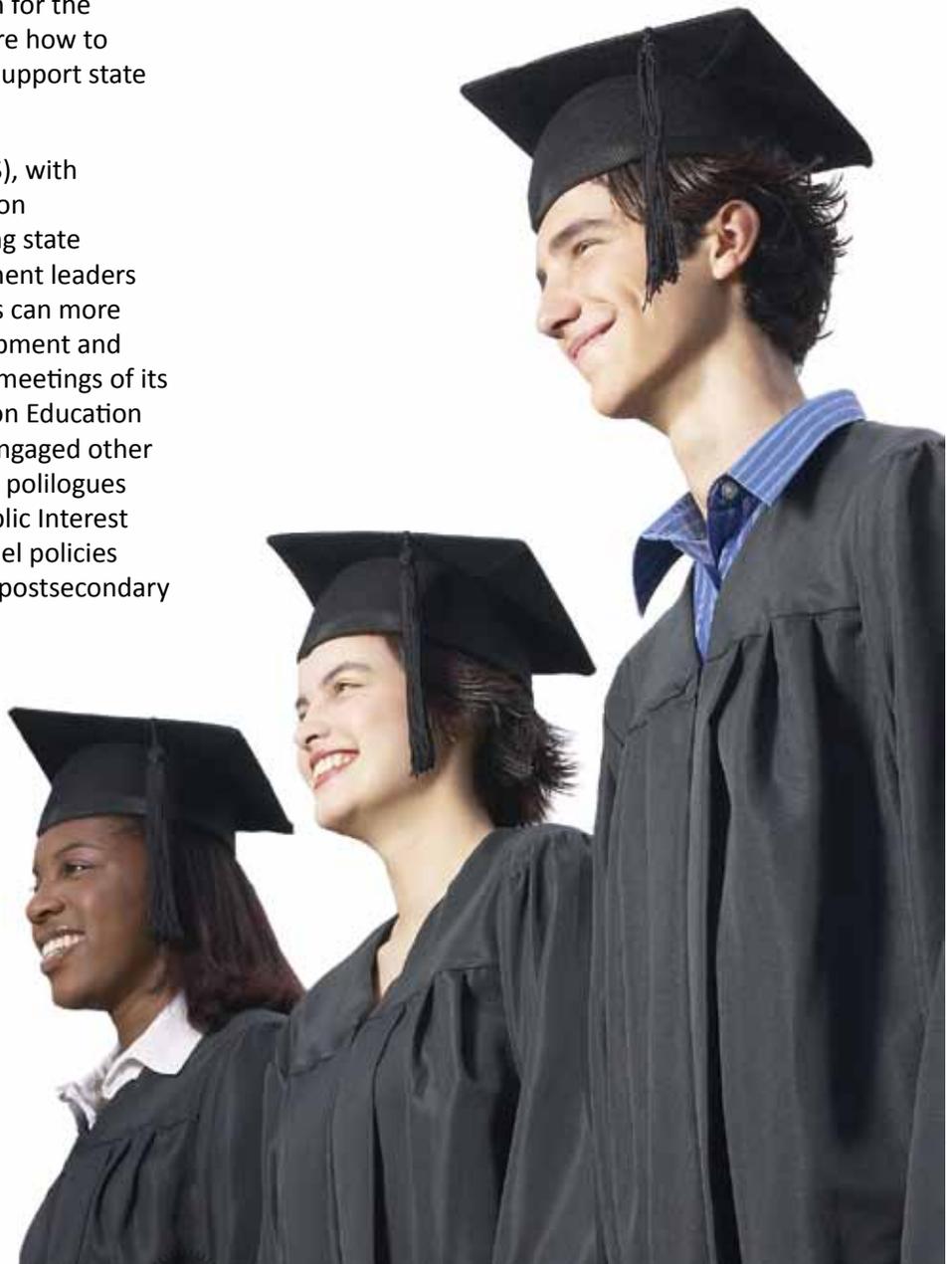
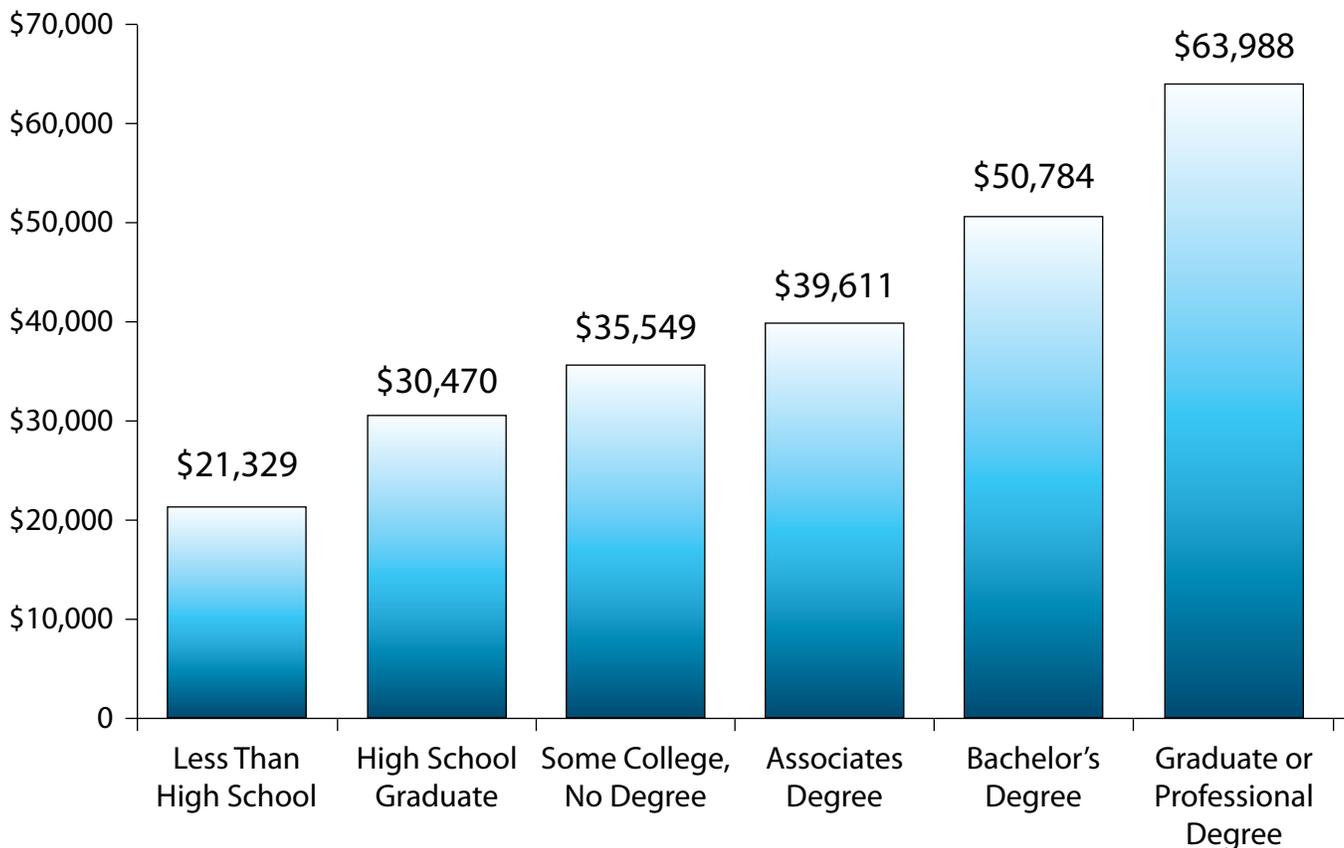


Figure 1: Median Earnings for Population Age 25-64 by Education Attainment, 2006



Source: U.S. Census Bureau, 2006 American Community Survey PUMS File.

While the benefits of improved college attainment rates are clear, the challenges to achieving President Obama's goal are profound. Declining public funding for postsecondary education stands as a significant barrier to higher attainment rates. As states face shortfalls, higher education, with its ability to generate revenue through tuition and other sources, will be an easy target for state legislators. As a result, institutions will need to fully leverage every federal, state, private and tuition dollar at their disposal.

If increasing the productivity of postsecondary institutions will need to be the primary strategy for increasing college attainment — at least in the short term — states will need to consider profound changes for the United States to have any chance of reclaiming its crown as the most highly educated nation in the world.

According to Dennis Jones, president, National Center for Higher Education Management Systems (NCHEMS), the United States will need to increase postsecondary degree production by almost 53% annually — which equates to

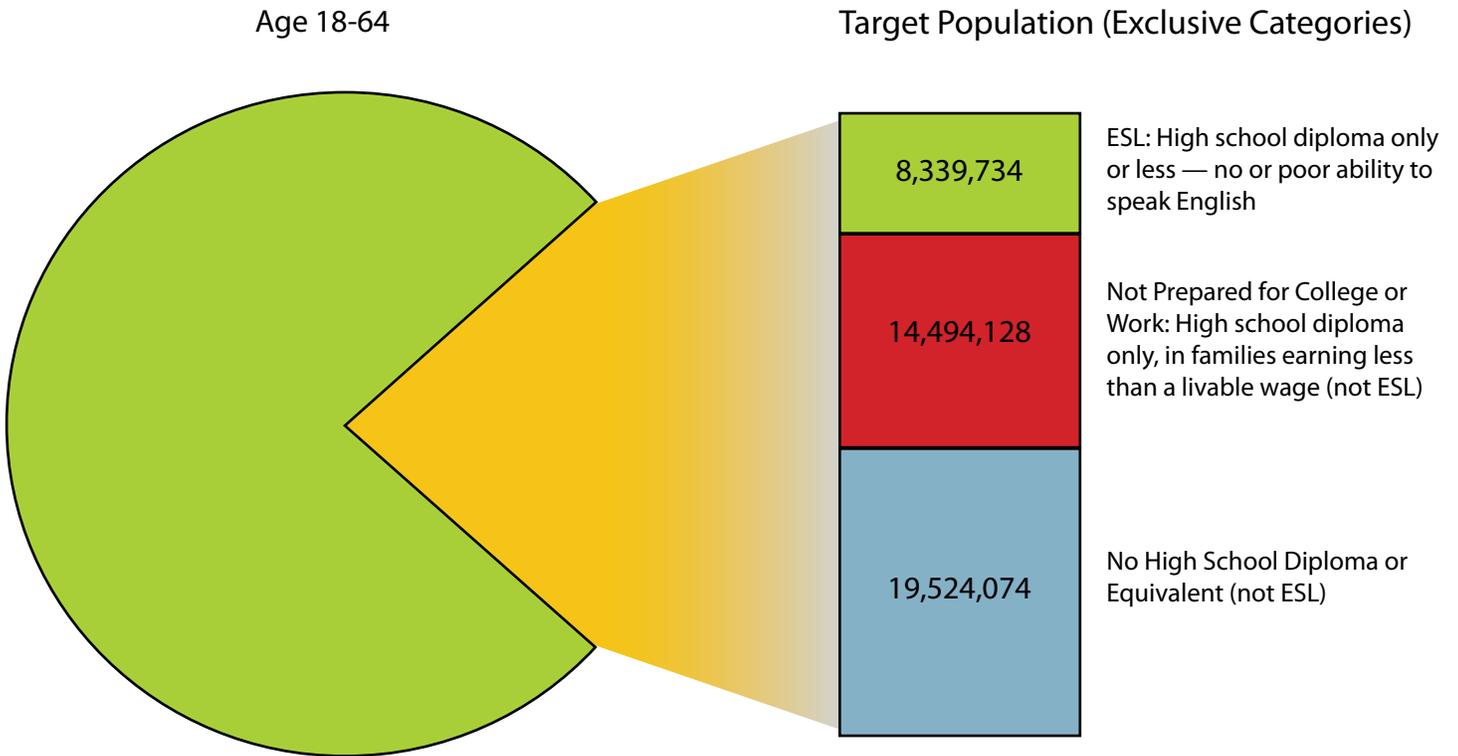
781,000 additional degrees per year — to be number one in the world by 2025.⁵ According to Dr. Jones, 32 states will need to reach beyond traditional high school graduates to increase their college attainment rates to the levels required to be number one in the world.⁶

To reach these projections, states must develop strategies that meet the unique needs of all potential students, including adults.

Adult students who do not possess a postsecondary credential are a large and diverse population. As of 2005, there were over 138 million adults age 18-64 in the United States. Of those, 42 million are candidates for postsecondary education, but are not adequately prepared. Many adults require English language training, others with high school diplomas require remedial and developmental education and others need to acquire their GEDs before being able to enroll. Each of these populations requires a unique set of interventions that will enable them to earn a credential and be employed in a livable-wage job.⁷



Figure 2: Target Population of Adults Age 18-64 for Postsecondary Education, 2005



Note: Incarcerated population not separated out.

Source: U.S. Census Bureau, 2005 ACS; PUMS.

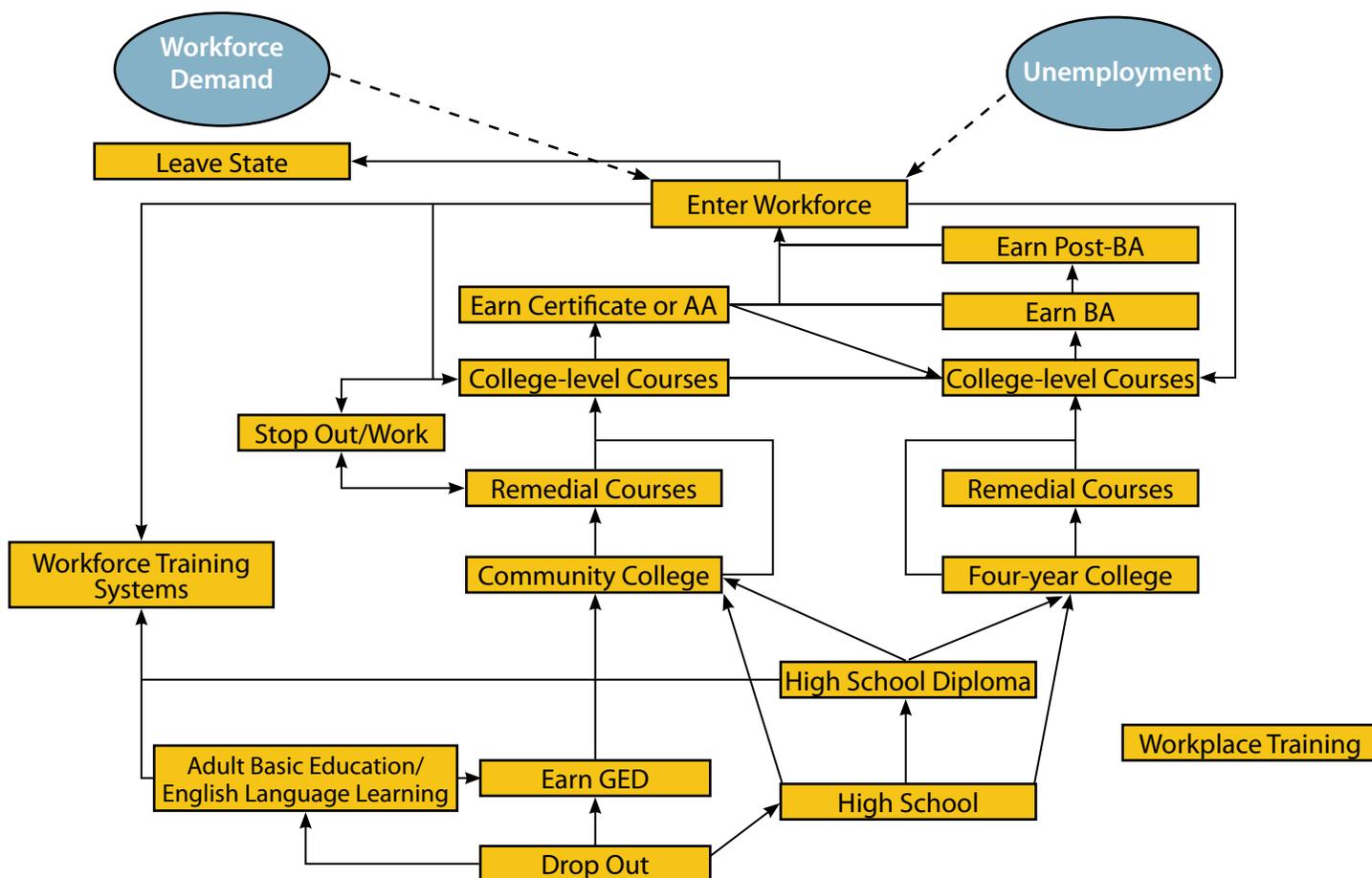
Graph developed by NCHEMS.

While there are isolated efforts to move adults through postsecondary education and into the workforce, many still find a complicated system that is difficult to navigate, not appropriately aligned and not properly focused on student success. Efforts such as Achieving the Dream (Lumina Foundation for Education), Shifting Gears Initiative (The Joyce Foundation) and the Bridges to Opportunity project (Ford Foundation) have resulted in promising policy and innovation for serving the target population. Unfortunately, these efforts have not yet resulted in the comprehensive changes in state policy and institutional practice that is necessary for generating significantly larger numbers of adults with a college credential.

Figure 3 (following page) illustrates the various pathways students must navigate to earn a postsecondary credential and obtain a livable-wage job. For those adult students who make up the target population, the path to postsecondary success is a maze of adult basic education, English language learning, workforce training opportunities, remedial education, and degree or certificate programs that likely will take more time and resources than many have at their disposal. As a result, many will “stop out” of the system to take a low-income job, and many will never return.



Figure 3: Pathways from Postsecondary Livable-Wage Jobs



The complicated nature of the system stands as the primary barrier to the achievement of President Obama’s goal. While greater alignment of the various pathways to a postsecondary credential is needed, many of the following bureaucratic and programmatic hurdles stand in the way:

- ◆ Lack of alignment of federal programs — such as the Workforce Investment Act, Carl D. Perkins Program and Adult Basic Education — with postsecondary education creates a piecemeal set of interventions for students rather than a coherent pathway for those who require basic or specific workforce skills and seek a credential.⁸
- ◆ Turf issues, partisanship and competition for limited resources among the various agencies and political bodies responsible for the policies and programs that train adult students stand in the way of greater collaboration, coordination and alignment.⁹
- ◆ Static bureaucracies focused on compliance rather than outcomes prevent the development of creative solutions.¹⁰
- ◆ Lack of buy-in and productive relationships among key leaders create inertia that makes timely and substantive collaboration difficult, particularly when creative reallocation of resources is the only feasible means to alignment.¹¹
- ◆ The absence of aligned and standardized data systems makes it extremely difficult to track student progress through the system and, more importantly, ensure that the various agencies are able to generate a clear picture of the students they serve.¹²



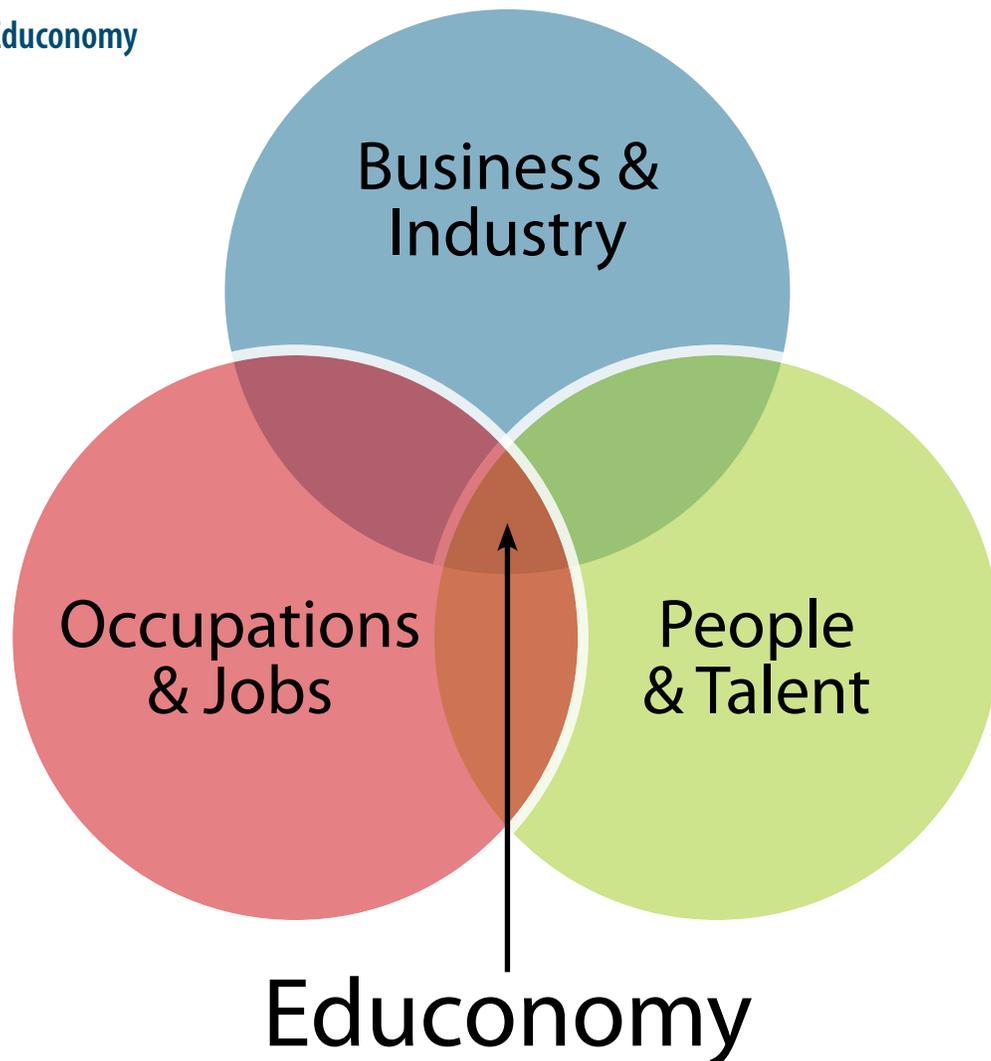
What Do We Mean by Alignment?

Depending on to whom you talk, you might get a very different vision of education, economic development and workforce development alignment. The vision you hear likely is not wrong, but may not be complete. Because the need to increase college attainment rates is so urgent and the challenge so daunting, it is important to take a comprehensive look at a definition of alignment that includes all Americans from traditional high school students to the worker who needs new training after spending decades in the workforce. For the purpose of developing a more comprehensive framework, we contend that four elements are critical to alignment.

1. Alignment Integrates Education, Workforce Development and Economic Development Policy

In many states, education, economic development and workforce development policy largely function separate from one another. As separate sets of policy, they often conflict and, consequently, do not maximize their impact on the overall economic health of a state or region. Tim Alford, Teresa Chasteen and Katherine DeRosear of Worldwide Interactive Network, Inc. (WIN) argue that states should align these three policy areas into a single strategy they term the “Educonomy.”¹³ According to WIN, understanding a region’s educonomy requires “identifying business and industry talent needs, understanding the current and emerging occupational and job-specific skills that are in demand, and take an inventory of the quantity and quality of people willing and able to seek employment in critical occupations.”¹⁴

Figure 4: WIN’s Educonomy



Worldwide Interactive Network, 2008¹⁵



2. Alignment is Regional

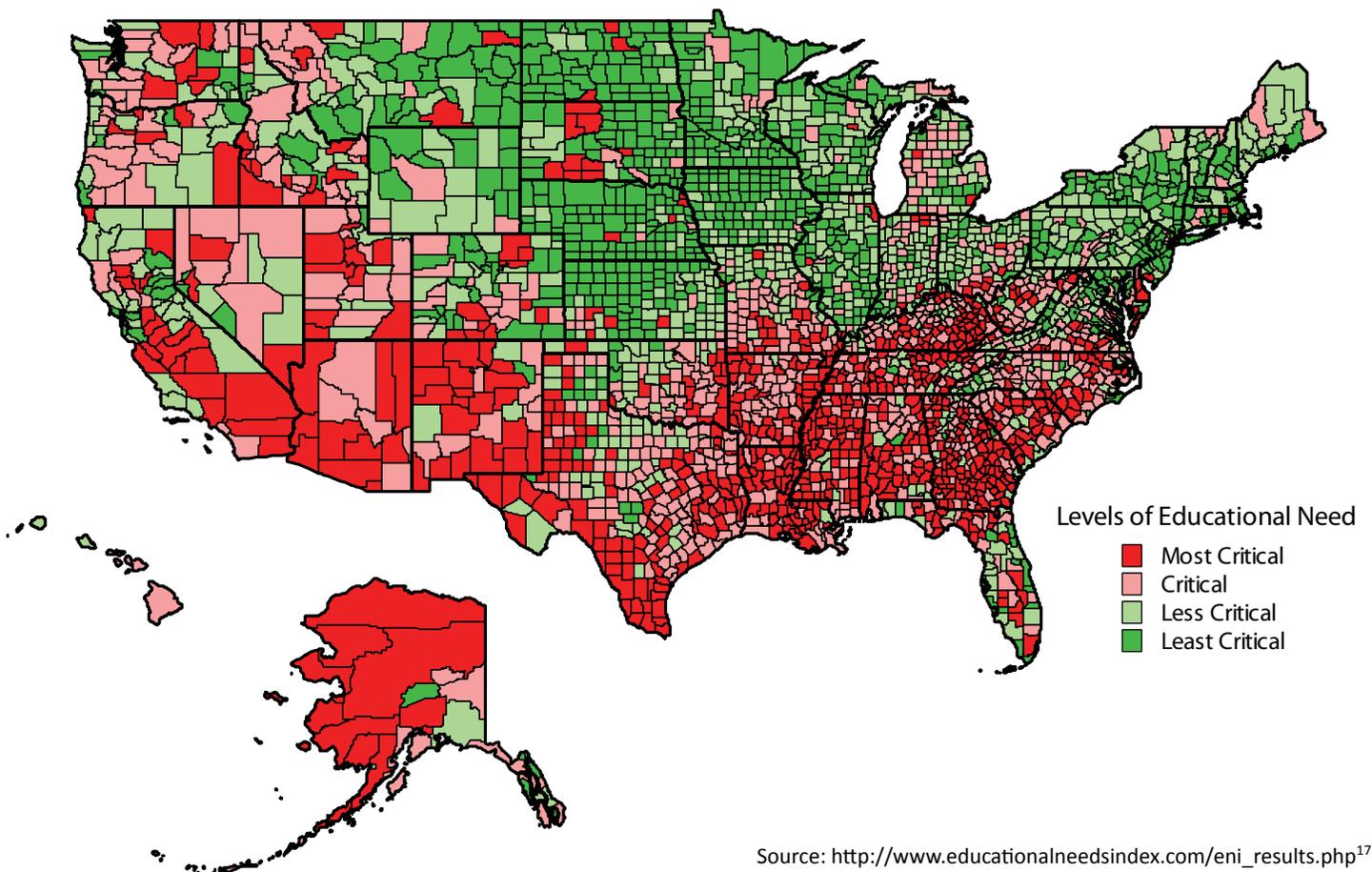
While the challenges regarding the current state of the U.S. economy are posed in national terms, the harsh realities of the current economic downturn are felt unevenly from state to state and region to region. As a result, alignment requires an intimate knowledge of the unique circumstances of various regions that in many cases are not confined to state borders.

The *Educational Needs Index* is a tool — developed by Patrick Kelly from the National Center for Higher Education Management Systems, Brian Noland of the West Virginia Higher Education Policy Commission and Houston Davis of the Oklahoma Board of Regents — to combine data on the educational attainment rate, economic conditions and demographics of residents down to the community level.¹⁶ Their analysis presents a powerful visual that connects our national challenge to the need for regional solutions.

The map from the Educational Needs Index (Figure 5) shows that in many regions of the nation the combination of low educational attainment rates and poor economic conditions are at a critical level.

While the circumstances that contribute to a critical level in the Educational Needs Index vary, one distinct possibility is that a region may be ineffective at developing and retaining an educated population. The result is a vicious cycle that is difficult to overcome. According to Paul Benneworth and Peter Arbo, who studied higher education's role in regional economic development for the Organisation of Economic Co-operation and Development (OECD), high need communities that do not engage education and business to create strategies that integrate education with the workforce, probably will not generate and retain a highly educated population capable of driving economic growth.¹⁸

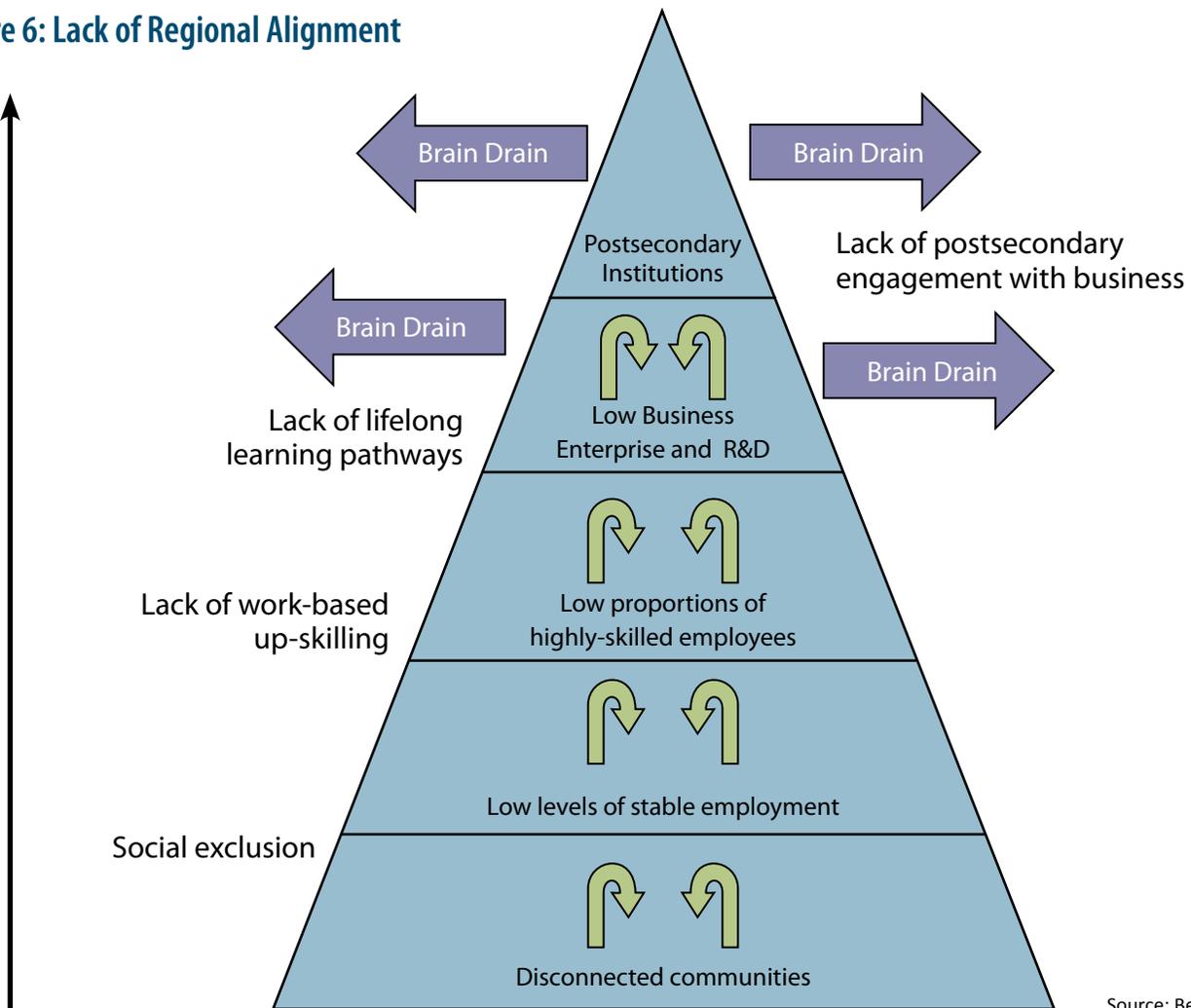
Figure 5: Educational Needs Index for U.S. Counties



Source: http://www.educationalneedsindex.com/eni_results.php¹⁷



Figure 6: Lack of Regional Alignment



Source: Benneworth, 2006

Because of the unique circumstances of different regions, state policy should not apply a broad stroke to alignment and instead should develop policy that is regionally sensitive. For those communities with the greatest needs, state policy should empower those regions to develop more aligned strategies that build off their regional strengths and address their weaknesses.

3. Alignment Positions Education as the Arbiter of Student Supply and Workforce Demand

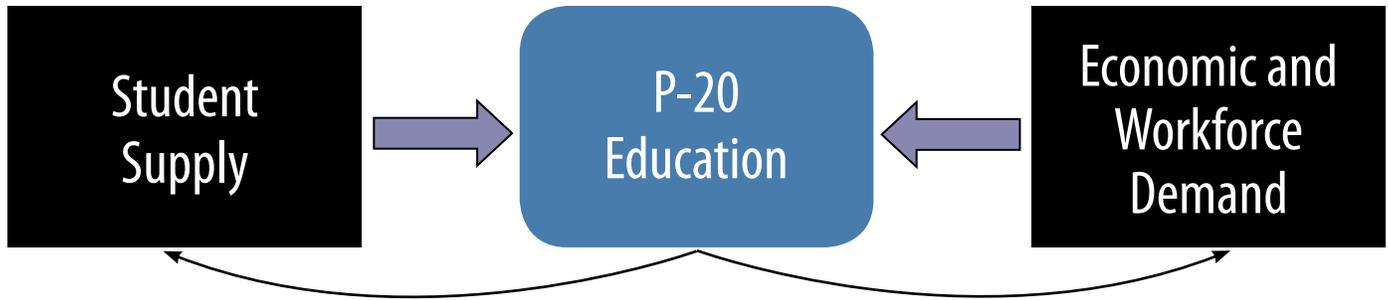
In an aligned system, education institutions are viewed as the arbiter of student supply and workforce demand. In other words, education institutions develop and implement strategies that meet both the needs of a diverse population and the needs of business to fill the highly skilled, livable-wage jobs that are available in a rapidly changing 21st century economy.

To sustain effective alignment, institutions need to be fully aware of the jobs and skills that are in high demand in their regional economy. They need to compare data on these high-demand jobs and skills with the degrees, programs and curriculum offered at their institutions. In addition, education institutions must work with economic development and business leaders to evaluate the effectiveness of their programs and engage them in the development of needed programs.

As a supplier of workers, postsecondary education institutions must understand the academic and career goals of students and customize instruction to allow students to achieve those goals in a timely, cost-effective manner. In addition, they must engage K-12 education institutions, adult basic education programs, one-stop centers and other workforce training systems in developing the mechanisms necessary to guarantee a smooth transition from these programs into postsecondary education.



Assessing Student Supply and Economic/Workforce Demand

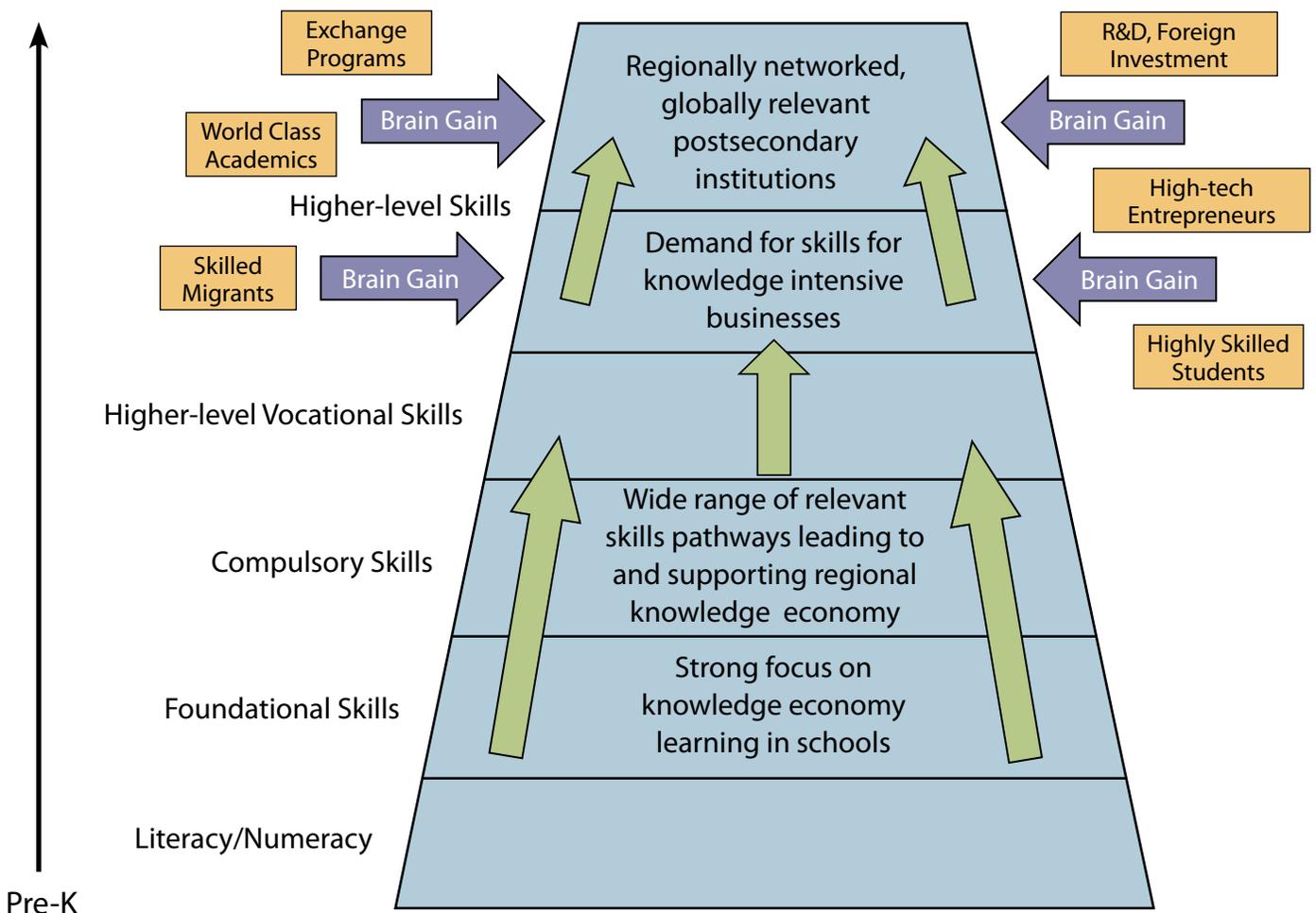


4. Alignment Requires a P-20 Approach

Addressing the profound challenges faced by communities in critical education and economic distress requires wholesale reforms beginning with basic literacy skills in preschool and progressing to the higher-level vocational and academic skills in postsecondary education. Education institutions should be engaged with business and economic

development leaders to develop interventions and policies all along the P-20 pipeline that will result in higher academic achievement and better preparation for the workforce. As Benneworth's model of an aligned system illustrates (Figure 7), a strong P-20 system that is connected to the critical needs of industry creates a growth cycle that leverages investment, attracts high-tech entrepreneurs and results in brain gain to the region.

Figure 7: An Aligned P-20, Economic Development and Workforce Development System



Source: Benneworth, 2006



Key Strategies for Alignment

While states are employing a myriad of programs and policies to meet the economic needs of their regions, three strategies are critical.

Strategy 1: Identify, Assess and Certify the Skills and Competencies in Demand in the Workforce

Employers often express concern that recent graduates lack basic skills, workforce skills and the subject area content knowledge required to be successful. While 48 states now have signed onto the Common Core State Standards Initiative, a critical next step will be to identify the skills and competencies within each standard that are most in demand in regional economies. Moving from broad academic standards to specific skills requires a collaborative process between educators and employers, more diverse assessment instruments that measure student competencies and a re-examination of the ways student learning is certified so that it better reflects the actual skills students possess.

Several states are exploring how to more effectively identify, assess and certify student competencies across the P-20 spectrum. The following are some promising examples.

Identify Student Competencies

The Wisconsin Department of Public Instruction, the Wisconsin PK-16 Leadership Council and Competitive Wisconsin, Inc. engaged business and community leaders in 2007 to explore how to better leverage the state's education investments toward economic development goals. Attendees were asked to identify the skills current 8th graders will need when they graduate from high school and college to be successful in the workplace.¹⁹ Using the *Partnership for 21st Century Skills Framework*, participants identified the skills they felt were most important for students to learn along the preschool through postsecondary education pipeline.^{20,21} The findings from the summit contributed to a standards review process conducted in partnership with the American Diploma Project and the Partnership for 21st Century Skills. The goal of the process was to ensure state standards were appropriately relevant to the skills required for the workforce. The Wisconsin Department of Public Instruction released proposed standards in high school English and mathematics in 2009 and intends to align those standards with the *Common Core State Standards Initiative* once the process for adoption is released.^{22,23}



Assess Student Competencies

The Illinois State Board of Education's *Prairie State Achievement Examination (PSAE)* for 11th graders uses a combination of the ACT and the reading and mathematics section of the WorkKeys® assessment. Results from the WorkKeys component of the PSAE for all Illinois high schools are made available online through a partnership between *School Data 4 All* and the Illinois Business Roundtable.²⁴

In 1998, the **Utah Board of Regents Task Force on General Education** asked “*What is an Educated Person?*”²⁵ The results were a set of education goals that outlined the skills all Utah postsecondary education institutions should teach as part of their general education curriculum. The Task Force generated overall goals for writing, quantitative literacy, physical sciences, life sciences, social sciences, humanities, fine arts and American institutions. The process outlined learning goals by aligning the general education curriculum with business and industry needs, incorporating the latest research on student success and engaging in a process of “*Academic Tuning*” much like the Bologna Process in Europe.²⁶ The Task Force took on the daunting task of outlining measurable learning outcomes for students in four broad areas: Knowledge of Human Cultures and the Physical and Natural World, Intellectual and Practical Skills, Personal and Social Responsibility, and Integrative Learning.²⁷

To measure student learning outcomes, Utah institutions will develop e-portfolios that enable institutions to document student skills and competencies. The e-portfolio will supplement the diploma by serving as a type of educational résumé that will prove useful to students as they enter the workforce.



Certify Student Competencies

Many states, regions and industries are beginning to use work readiness certificates as a means of certifying the skills students have acquired through K-12, postsecondary or other training programs.

Virginia is one of 37 states using *ACT's Career Readiness Certificate (CRC)*.²⁸ The CRC is a portable skills credential that certifies basic workplace skills in applied mathematics, reading for information and locating information as assessed by ACT's WorkKeys.²⁹ In 2004, through the urging of Virginia business leaders, Governor Mark Warner implemented the CRC in the state's community colleges. The CRC certifies skills and competencies as measured by a legally compliant skills assessment that can be used in the hiring process. The CRC allowed the further development of the *Virginia Skills Bank (VSB)* by the Virginia Community College System and the Virginia Electronic Technology Center.³⁰ The VSB is a database where employers can search by individual or by WorkKeys scores, geography or types of certifications to identify candidates for job openings.³¹ The CRC was developed to complement traditional postsecondary credentials by enabling students to document work-ready skills as well as the academic skills their degree certifies. In addition, the CRC creates a common ground that facilitates greater cooperation between education and business.



Strategy 2: Align Education and Workforce Data Systems

Momentum for developing data systems that link education productivity and workforce demand is growing. While many states might conduct periodic assessments in specific fields such as healthcare and technology, few states have developed comprehensive data systems that track the extent to which postsecondary education meets the state's workforce needs.

Effective data systems can be used to conduct large-scale analyses of postsecondary productivity and workforce trends as well as to provide specific information for workers looking to pursue education and training in high-demand fields. The following examples showcase some of the best practices that are emerging in states.

The Ohio Skills Bank (OSB) is the University System of Ohio's effort to realign education and workforce systems to the skills and jobs that are in high demand within regional economies.³² OSB is essentially a career-pathways process comparing regionally distilled Bureau of Labor Statistics data and other regionally validated employer data on occupational demand against the program completion data from the region's postsecondary institutions. If workforce shortages are projected in a given area, OSB works with employers to develop strategic and tactical approaches to meeting demand in as timely a manner as possible.³³ OSB provides the opportunity to more effectively deploy proven strategies such as career pathways to create career ladders that encourage the region's workers to pursue high-demand occupations.³⁴

The Department of Commerce in South Carolina is utilizing WIN's *Strategic Compass*[®] to align education and economic development efforts. Strategic Compass employs a user-friendly dashboard to bring together typically disparate data that facilitates just-in-time economic analyses, strategic planning and resource allocation.³⁵ The tool enables the user to track the latest data on industry trends and demand in various occupations. The system also enables the user to identify the education and training programs that can provide the training needed in any given occupational field — plus monitor whether the productivity of education and training programs are meeting or exceeding state, regional or national demand. The dashboard is available to workforce development agencies, school districts, postsecondary institutions and guidance counselors who advise residents about their education and training options.³⁶

Strategy 3: Develop Customized Instructional Models

The final strategy to effectively align education and workforce is implementation of a delivery model that meets the unique needs of a diverse student population while providing appropriately contextualized instruction capable of efficiently and effectively moving students through training and into livable-wage jobs. The following are some of the most promising instructional models.

Arkansas is one of several states employing a career pathways approach that aligns various levels of education and training to specific occupations within industries such as healthcare or manufacturing. Under *the Arkansas Career Pathways Initiative (CPI)*, two-year institutions provide education and training in high-demand fields to low-income, low-skilled Arkansas residents.³⁷ The strategy coordinates public postsecondary education, state social services, economic development and workforce development programs into a cohesive strategy that reaches residents who have the most difficult time accessing education and training.³⁸

The program, funded through the state's Division of Workforce Services via the U.S. Department of Human Services' Temporary Assistance for Needy Families (TANF)³⁹, serves students who are "TANF-eligible".⁴⁰

The program is coordinated by the Arkansas Department of Higher Education with involvement from the Arkansas Department of Workforce Education, the Department of Workforce Services, the Department of Human Services, the Arkansas Association of Two-Year Colleges and the Southern Good Faith Fund.

The legislative mandate establishing the program includes funding incentives for reaching performance measures such as increased numbers of students who pursue or complete a degree or certificate or who gain and retain employment. The project, currently approaching its fifth year, is showing promising results. In the 2007-08 progress report, enrollments exceeded performance goals, degree and certificate completion rates fell just short of the goal of 50%, and over seven of 10 sites had employment rates that exceeded the state standard of 55%.⁴¹

The Washington State Board of Community and Technical College System's (SBCTC) *Integrated Basic Education and Skills Training program (I-BEST)* is recognized widely as one of the most successful education and workforce alignment initiatives in the nation.⁴² I-BEST resulted from Washington's involvement in the Lumina Foundation for Education's *Achieving the Dream Initiative (ATD)*.⁴³ As part of ATD, SBCTC conducted a study examining the



educational experiences, attainment rates, employment rates and earnings of adults five years after first enrolling at an SBCTC institution. The research found that short-term training, participation in adult basic education or enrollment in a limited number of college-level courses did not lead to increased employment rates or earnings. Only those students who reached the “tipping point” of enrolling for at least one year at a community or technical school and/or completed a degree or certificate saw a measurable increase in wages.⁴⁴

As a result of the tipping point research, the system set a goal for all students to enroll in college-level work for at least a year and ultimately earn a degree or certificate. Because many students who enroll in the system are not academically prepared to enroll in college-level courses, SBCTC needed to devise strategies to move students through basic skills education more quickly. The solution was the I-BEST program. I-BEST pairs English language learning and adult basic education instructors with professional technical instructors in courses for the purpose of providing basic skills training in tandem with college-level technical training.⁴⁵ The courses teach basic skills within the context of the technical course in which they are enrolled, so students can immediately apply their learning to their field. A detailed study of the project found that I-BEST students achieved at a higher level than other basic skills students. I-BEST students were more likely to continue into credit-bearing courses, earn credits toward a credential, earn a certificate and improve their basic skills.⁴⁶

Moving From Strategies to System Realignment

Each of the examples cited are impressive in their efforts to more effectively align education strategies with the economic and workforce needs of their states and regions. While these innovations show great promise, implementing them in isolation will not necessarily result in a systemic realignment of education, economic and workforce policy and resources. With the U.S. economy undergoing a seismic shift, states must develop an entirely new infrastructure to withstand the inevitable tremors that go along with a competitive global economy. In a time of limited public resources, education institutions must position themselves as a critical player in targeted, data-driven, human capital development that directly contributes to regional and state economies.

Fundamental realignment of the education system with local and regional economies requires a comprehensive and sustained effort that: engages key leaders; overcomes turf issues; moves static bureaucracies from compliance to innovation; effectively uses data that enables just-in-time responses; and creatively reallocates federal, state and local resources. Successfully navigating hurdles and institutionalizing a systemwide response is complicated and often times overwhelming. Fortunately, with new federal and private resources available to jumpstart efforts, the time is ripe for states to commit themselves to alignment.



The *KnowledgeWorks Foundation* serves as a model for how the philanthropic community can play a key role in alignment.⁴⁷ KnowledgeWorks is Ohio's largest education philanthropic organization and has positioned itself as a primary catalyst for greater education and economic development alignment. The foundation engaged in a multi-pronged strategy of attracting investment from large national and regional foundations like the Ford Foundation and Joyce Foundation to develop and implement career pathways models across the state of Ohio. The Foundation then parlayed the success of those efforts into a comprehensive statewide strategy by gaining the support and investment of the state's education and government leaders. The lessons learned from Ohio and the other states that have engaged in alignment efforts offer insights from which other states about to engage in alignment work can learn.

The Education Commission of the States, with the support of the KnowledgeWorks Foundation, engaged in two online polilogues or "jams" with education, workforce and economic development leaders. According to Knowledge in the Public Interest (KPI), the jam facilitators, "A jam is a facilitated asynchronous online discussion during which participants share experiences, ideas and materials. The discussion is analyzed and made available to participants." Jams are an effective way to engage a large number of people in meaningful online dialogue. Because a jam is a text-based forum, the dialogue can be easily analyzed using qualitative text analysis techniques. In addition, it is effective at identifying a wide variety of online resources participants can access.

Eighty-seven leaders participated in one or both of the following online jams. The participants included legislators, governors' staff, higher education and K-12 leaders, workforce development and economic development representatives, and business leaders.

Partnerships for Alignment: Education, Workforce and Economic Development, October 22-23, 2008

This jam included three concurrent threads that addressed:

- ◆ Making the Case for Alignment: What's the Return on Investment?
- ◆ Creating Powerful Partnerships: Connecting People, Perceptions and Policy
- ◆ Building an Effective and Sustainable Strategy.

Leveraging P-16 Councils to Drive Education and Economic Success, March 19-20, 2009

The jam included three threads that took place consecutively and addressed:

- ◆ Aligning P-16 Councils with Workforce Goals
- ◆ P-16 Council Roles in State Data Systems
- ◆ Creating Effective P-16 Councils.

Knowledge in the Public Interest drafted an analysis of both jams that provides valuable insights on how states can develop a more comprehensive change strategy for creating a statewide approach to greater alignment of education, workforce and economic development policy. The following represent some key recommendations.

Create a Virtuous Circle of Policy and Practice

Jam participants shared a variety of approaches to jump-starting alignment efforts. Some efforts began as a result of powerful leadership from governors and other high-profile leaders that percolated throughout agencies and systems. Other efforts gained steam from local or regional strategies that achieved promising results. In either case, there seemed to be a dynamic of good policy promoting good practice and good practice leading to innovative policy. Creating a virtuous circle where success builds on success throughout the system seemed to lead to stronger and more systematic alignment. Following are some examples of how states are creating a virtuous circle of policy and practice.

See the Forest and the Trees

In **Colorado**, Governor Bill Ritter has worked to align state policy and regional strategies promoting economic development. He recruited key stakeholders, clarified the roles they should play, and brokered opportunities for policy to inform practice and vice versa. He has accomplished this by creating separate and distinct charges for the Colorado State P-16 council and the Governor's Jobs Cabinet. Before every legislative session, the P-16 council is tasked with developing a set of policy recommendations. The Governor is clear about the council not getting into the minute details of funding or implementation. He simply is looking for policy innovation. With the Jobs Cabinet, he has focused on specific strategies that address immediate and pressing needs. He asks them not to get engaged in policy discussions, but on real solutions. As a result, he has enlisted the involvement of key state leaders to deliberate over both policy innovation and practical solutions, creating an opportunity for Governor Ritter to ensure that policy and practice reinforce one another.



Move from Planning to a Strategic Plan

In **Ohio**, the long-term decline of the manufacturing sector and the precipitous loss of jobs that resulted was no secret to policy and education leaders. What was not well understood was the capacity of the state's institutions to respond to the economic challenges the state was facing. A series of commissions and planning committees met and issued reports on the lack of alignment in Ohio's education and workforce systems.⁴⁸ Two planning processes began to build momentum for greater alignment. The development of a career pathways initiative in 2005 and the work of the Ohio Workforce Education and Training Council, created by Governor Taft by executive order in 2006, led to a very practical vision for how greater alignment could benefit the Ohio economy.^{49, 50}

A conference of community college leaders in 2004 began the work of developing a career pathways initiative that would position community colleges as important actors in regional workforce development efforts. The lessons learned from the initiative made a very persuasive case for a coordinated, statewide effort to achieve greater alignment of education and workforce investments.

The report of the Workforce Education and Training Council released in 2007 created additional urgency by assessing the lack of alignment in the current system and recommending some practical policy changes to facilitate greater alignment. The council, which is made up of business, education and workforce leaders, was an appropriate forum for creating a joint sense of urgency among each of these groups. These efforts — along with a new strategic plan from the Ohio Board of Regents — resulted in the oversight of the state's Adult Basic Education and Career-technical education systems being moved under the Ohio Board of Regents. This created a GED-to-PhD pipeline and a synergistic response that made the transition to greater statewide alignment possible.

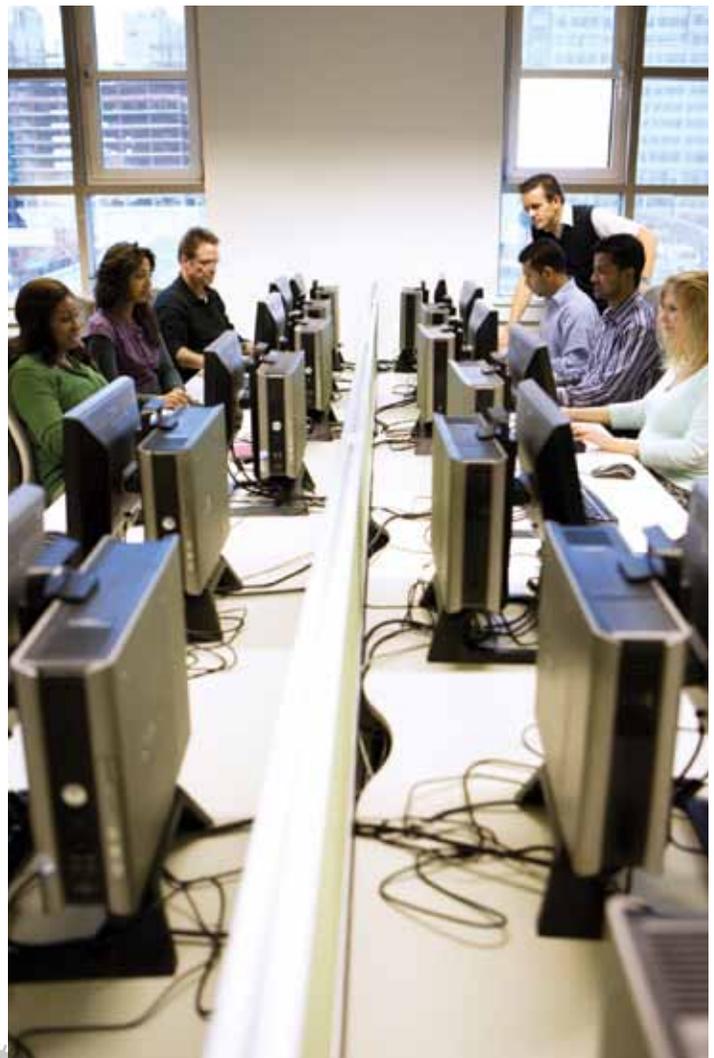
Use One Innovation to Beget Another

Virginia's development of a Virginia Skills Bank, immediately after establishing the Virginia Career Readiness Certificate (CRC), made the CRC more relevant to employers and individuals. As a result, the CRC gained greater currency and broader commitment to alignment efforts.⁵¹

The **Ohio** Board of Regents Strategic Plan intentionally links economic development and education goals by harnessing existing innovations and steering them in a single direction. Strategies such as moving adult

basic education under the Board of Regents, the Career Pathways work led by KnowledgeWorks, the Ohio Skills Bank and stackable certificates for teaching basic skills have been in motion for some time. The Strategic Plan provides a vision and a mechanism for measuring the contribution these initiatives have made toward statewide goals.

Washington's I-BEST is part of a larger State Board of Community and Technical College (SBCTC) strategy to improve degree and certificate completion rates. The I-BEST program benefited from a change in the funding formula for SBCTC courses so they could cover the additional cost of multiple instructors in courses. In addition, the Washington legislature adopted a new incentive funding program for SBCTC institutions that rewards institutions for meeting a variety of benchmarks related to the system's broader attainment goals. The Washington model demonstrates how effective application of research can lead to broader investment in education and workforce alignment efforts.



Support Regional Solutions

Alignment needs to have a regional dimension. While problems can be described in state terms, the realities are felt by regions. The challenges in a region made up of small rural communities are very different than an urban region that relies on a strong manufacturing base to succeed. The jams revealed examples where state investments supported regional solutions. Conversely, there were examples where the best thing state government did was stay out of the way and allow innovation to take place. Following are examples of how regional leaders can contribute to achieving both state and regional goals.

Empower Regions

Oklahoma has taken a regional approach to the implementation of the state's Career Readiness Certificate (CRC) strategy by naming *Certified Work Ready Communities* that are committed to engaging all the key stakeholders within a region to implement a CRC strategy.⁵² Collaboration at the state level among all of the key agencies allowed for the successful implementation of Work Ready Communities. Prior to such collaboration, the lack of clear communication across agencies contributed to a divide-and-conquer strategy that pitted representatives from those agencies against one another at the regional level. The successful collaboration at the state level has led to the development of a broader mission for the high-level managers who made up the initial partnership for the Work Ready Community Initiative. As a result, Oklahoma is poised to develop a more comprehensive alignment strategy.⁵³

Ohio's movement to an incentive-based funding formula for its postsecondary institutions empowers the state's institutions to achieve the goals of the strategic plan. Because some of the performance measures are regional in nature, institutions must work together to achieve them.⁵⁴ In addition, the performance measures are related to the specific goals of the strategic plan. The various "challenge" programs in the new funding formula address: economic growth, postsecondary access, jobs, research and student success.⁵⁵

In addition, the Ohio Skills Bank gathers data on postsecondary productivity and workforce demand for each of the state's 12 regions. This data has become the foundation for a regionally based, but system-wide realignment of education and workforce efforts. The data produced by the Ohio Skills Bank has been the lifeblood of innovative efforts connecting postsecondary institutions with industry and workforce leaders in their regions.

Exercise Regional Power

The **Ohio** Regional P-16 Councils are not named in state policy and typically are informal organizations not burdened with the running of programs. Without specific charges from the state, regional councils are able to creatively convene the key players and align resources. While the lack of a formal role makes communication difficult, the regional councils don't see this as a barrier to impacting policy.

In **Georgia**, regional P-16 councils have played a proactive role in communicating policy priorities to the state. While there is some effort to connect regional councils to the larger state P-16 council run out of the Georgia Board of Regents, regional councils are not shy about using their own political influence to make direct appeals to the legislature for policy change. It is not uncommon for regional P-16 councils in Georgia to engage their local state legislators — who might even be on the regional council — to push for policy at the state level. The key to their success is that the councils are learning to use data to effectively make their case. Such data reveals regional differences, which builds support for regional solutions.

In **Kentucky**, regional P-16 councils often convene school district leaders and other regional leaders to discuss key policy issues and communicate the findings to state leaders in an attempt to impact state policy. The regional nature of these summits provides critical feedback to states on whether state policy supports regional solutions.

Leadership, Engagement and Sustainability

While leadership plays a critical role in catalyzing alignment work, it may be even more important to the sustainability of efforts and the continued engagement of all the key players. Governors and other state government leaders are very important, but the nature of election cycles means that governors and other elected officials will come and go. As a result, others need to step up to the plate to provide the leadership necessary to sustain efforts across elected administrations.

One action a governor can take is to issue an executive order to study the state's workforce issues and immediately bring attention and focus to the issue. The order presents the opportunity to bring together business, education and policy leaders in an effort to build a coalition committed to greater alignment. The following are some examples of how strong leadership can propel alignment efforts.



Break Down Barriers Through the Use of Common Data

In **Florida**, Governor Bob Graham was concerned that the state's education, workforce development and economic development efforts were not "singing out of the same hymnal." In fact, the various agencies, armed with their own set of data, were often in conflict with one another. Graham ordered a large study to explore how state investments could be aligned to meet economic development goals. The study engaged business leaders, students, employers and the broader public to explore how system resources could be better leveraged. The results of the study had an immediate impact to include the immediate integration of data systems.⁵⁶ By creating common data, agencies are able to work together to develop solutions that cross agency lines.

Broaden Leadership. It's Not Just for Governors.

In **South Carolina**, *New Carolina*, a sector-based group of business leaders, in partnership with the South Carolina Department of Commerce, worked together to generate policy changes that initiated greater alignment of education, economic development and workforce goals.⁵⁷ Through New Carolina, business leaders identified the core industries in the state and developed a regional/sector-based strategy to create greater alignment in state economic development efforts. New Carolina incorporated education into the strategy by working with the Department of Commerce to push through a major education reform called the *Education and Economic Development Act (EEDA)*.⁵⁸ EEDA has resulted in opportunities for regional collaboration among education and workforce leaders through the development of regional education councils as well as statewide reform of K-12 curriculum to ensure its relevance to the workforce.

In **Ohio**, the KnowledgeWorks Foundation provided leadership by working closely with all of the key policy, education and workforce leaders in support of a statewide strategy. KnowledgeWorks worked with Governor Taft to lay the groundwork for a statewide strategy, but then continued the work with Governor Strickland in a manner that has led to a sustainable strategic direction for the state. The foundation's ability to leverage outside resources and work closely with all stakeholders contributed to greater commitment from the Governor's Office and the Office of the Chancellor from the Ohio Board of Regents. While there are several groups working together on alignment, KnowledgeWorks has been the common thread tying the efforts together into a statewide solution.⁵⁹

Converging Regional Efforts

According to Dennis McGrath, the goal of a regional approach is a "convergence" through which local education, economic development, business, policy and workforce leaders can develop a unified vision for regional development, align resources, use data to set priorities and bring effective initiatives to scale.⁶⁰ It was clear from the jam that there is a desire in states to "lay it all on the table" to better align resources. The following are examples of how key stakeholders worked together to "converge" state and regional efforts.

STRIVE Together, a regional P-16 council in southern Ohio and Northern Kentucky, is conducting an inventory of the federal, state, local and philanthropic resources to see if they can be better aligned to meet regional goals. In addition, STRIVE is identifying both government and philanthropic resources that have not been fully tapped sufficiently to meet regional goals. Central to these efforts is a unified understanding of the pipeline that students follow to a degree, the research on the key barriers and outcomes that facilitate student success, and recognition of the linkage between education success for students and the economic success of the region.

While the funding is almost exclusively through the Temporary Assistance to Needy Families (TANF) block grants, the **Arkansas Career Pathways Initiative** is run by the Department of Higher Education and involves all of the key government agencies that are engaged in the education and economic success of the state's most low-wage, low-skilled workers. Building a system where the agencies are invested in the strategy and do their best to align their efforts with the initiative demonstrates convergence around a set of goals and outcomes.



Deliberately Connect Postsecondary Success to Economic Success

Developing a strategic plan that inextricably links education outcomes with economic outcomes can be a valuable tool for creating alignment. The following are examples of strategic plans that tie the success of the education system with the economic conditions of states.

Kentucky's Public Agenda for Postsecondary and Adult Education is widely considered a model for how to create greater alignment between education and the economy.⁶¹ “The Five Questions” developed for the strategic plan make explicit the state’s commitment and the strategies it should pursue for increasing college attainment rates, meeting the workforce needs of residents and benefiting the state’s economy. The state’s response to each question is spelled out with action strategies, clear goals, benchmarks of progress and implementation plans from every institution in the state. The plan has led to significant policy changes to include the reorganization of the entire postsecondary system, shifting adult education to postsecondary education and propelling greater articulation of college readiness standards.

The Ohio Board of Regents' Strategic Plan for Higher Education, much like Kentucky’s public agenda, sets out clear objectives that are tied to the overall economic well-being of the state.⁶² Graduating more students, keeping those graduates in state and attracting degree holders to the state are all tied to a broader economic vision for postsecondary education. In addition to the clear objectives for the University System of Ohio, the document lays out a set of clear principles for how institutions will achieve the plan’s objectives. Statements such as: “the state will offer many educational options ... the University System of Ohio will end the counter-productive competition among institutions for scarce resources ... and programs at adult workforce centers that are equivalent to technical programs offered at community colleges will be accepted for college credit, creating clear pathways between these types of institutions” make it very clear what types of policies and strategies that the system will pursue to meet the goals of the plan.⁶³ The commitment of the Board and the Chancellor, as well as the Governor, suggests the plan will be a blueprint for a coordinated, systemwide strategy, rather than merely a list of proposals to various legislative and governing bodies.



Conclusions

Creating statewide alignment of education, economic development and workforce development is different from state to state. Some states have a myriad of specific programs in place, but collectively they don't add up to a statewide strategy. Other states have a vision for greater alignment but are having a difficult time moving forward with policy and programmatic reform.

Because states find themselves at various stages of alignment, we offer some critical strategies that states could (and should) employ to move the needle on alignment.

Strategies to Facilitate Statewide Education, Economic and Workforce Alignment

Identify a Neutral Intermediary

Because the nature of these efforts requires collaboration across state agencies, housing alignment efforts in any given agency might not be the best way to go. Governors can use their positional authority to provide leadership and to catalyze a process, but there might need to be an independent agent like a foundation, policy think tank or business/industry partnership that keeps the ball rolling by convening leaders, collecting information and accessing resources from public or private grants. The facilitator needs to have the respect of all the key players and access to the Governor and other state leaders to move the conversation to the action stage.

Engage Business with a Substantive Role

Critical to moving alignment forward is involving the business community very early in the process. Business brings a unique view of the problem as well as its own language and strategies for moving ideas to action. Early involvement will ensure that business interests and their ways of working are incorporated into the strategy. Asking business to come later in the process runs the risk of not fully engaging them in the work of alignment.

Think Globally, Act Regionally

While the ultimate goal is to develop a statewide alignment strategy, the overall success of the strategy will depend on whether it meets the unique needs of each region in the state. As a result, developing policies and strategies that allow for a regional response is very important. Policies that incentivize regional collaborations of business, education, workforce and economic development leaders will ensure that the statewide strategy meets the needs of all corners of the state. Likewise, do not discourage regions from crossing state lines to develop solutions. In many cases, regions have more in common with the communities right across state borders than the state in which a region resides.

Inventory Current Efforts

Whether it is through federal programs like the Workforce Investment Act, community college-based customized training contracts with local employers or strategies like a career pathway model, every state is engaged in some level of alignment work. Conducting an inventory of existing strategies will acknowledge the current investment in alignment, identify promising strategies that can be built on and identify significant gaps that should be addressed. In addition, recognizing current efforts allows the leadership to invite those involved in smaller scale alignment efforts to be at the table as the conversation moves to a statewide strategy. This approach ensures less “stepping on toes” or “reinventing the wheel.”

Do a Data Integration

Bring together institutional research staff from workforce, human service and education to share and combine data. While most states cannot link databases across all these systems, states can take a snapshot of the current system and more importantly test or confirm the assumptions each agency has about the state.

The data should be both statewide and regional. Data should include demographic, economic and education. The Educational Needs Index can provide an initial snapshot. Also consider current workforce demand by industry and skills, postsecondary productivity by degree and any available data on workforce readiness using WorkKeys or another work readiness assessment.



Conduct a Policy Audit

Examine current state and postsecondary system policies to see how they either facilitate or impede alignment. Are there policies that prevent the sharing of data, unnecessarily segment education and training efforts into disjointed programs with disparate goals, or prevent innovation at the postsecondary institution level?

Assess the Capacity and Charge of Current Commissions and Councils

Closely examine the roles of P-16 councils, workforce investment boards, governors' workforce councils, and other boards and commissions that either support state agencies or convene stakeholders across the institutional spectrum. What are their missions? Do they duplicate efforts? Are there efforts at cross purposes? Once you have assessed current capacity, make recommendations for changes that create greater alignment.

Engage and Convene

At a point where interest in alignment appears to be peaking, begin to build broader investment through one-on-one meetings and larger meetings. While not all data must be in place to make the case for alignment, it is important to convey the need in a meaningful and substantive way. Presenting data in a manner that crosses institutional boundaries and provides an alternative view of the problem may be important to catalyze a substantive conversation. Buy-in is more likely if you bring something new to the table.

Use New Resources to Leverage Existing Resources

The American Recovery and Reinvestment Act, the American Graduation Initiative and grants from foundations provide a unique opportunity to implement innovative strategies and catalyze system reforms. Those resources, however, must be focused ultimately on redeploying existing resources and, more importantly, greater productivity. New resources can help purchase the equipment, pilot innovations and evaluate results so you can make the case for broader systemic reform with existing or quite possibly fewer resources.

Concentrate in particular on TANF, Workforce Investment Act, Perkins, Adult Basic Education and other federal programs that have unique missions by focusing them on statewide goals.

Get the Commitment of the Governor(s)

To develop a statewide strategy, you ultimately need the support of the governor and, in the case of turnover, governors. Building on the efforts of one governor with the new governor can be very difficult, but with the buy-in and engagement of all the key players, it can be done. The neutral intermediary can play a critical role in sustaining efforts across administrations and changes in leadership.

Engage the Legislature and the Board of Regents

While the buy-in of the governor is important, the state postsecondary system or the state legislature can stand in the way of a state response if it does not meet their goals or interests. A regional approach can help bring legislators on board by acknowledging the unique needs of their region and articulating how alignment can benefit their district. The same can be true with postsecondary systems, particularly when it comes to recognizing the work already being done on campuses to benefit the surrounding community. Getting the support of individual institutions can result in broader support at the system level.

Build on Successful Strategies and Challenge Ineffective Strategies

If there is an institution, program or policy that seems to be achieving an impressive result, use its success as a jumping-off point for the larger discussion. Use the lessons learned, the data collected and outcomes achieved to raise the question about how to scale up and institutionalize this innovation. Likewise, if there are efforts that seek to achieve greater alignment, but have been unsuccessful, don't hesitate to illustrate what needs to change.

Goal: Strategic Vision and Systemic Change

Successful programs should lead to a more systemic approach. Aligning data systems, adjusting funding formulas, creating greater accountability, developing incentives, institutionalizing successful reforms and eliminating restrictive regulation are all strategies that can be employed. In the end, those policies should all point in the same direction toward a broad vision for alignment and measurable goals all state agencies can stand behind.



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