DOCUMENT RESUME

ED 434 885 SP 038 820

AUTHOR McAlonan, Susan; Hotchkiss, Heather; Urich, Laurie
TITLE Bringing Standards to Life. A "How To" Guide to Contextual Learning and Curriculum Integration.
INSTITUTION Colorado State Dept. of Education, Denver.
SPONS AGENCY Colorado School to Career Partnership, Denver.; National School-to-Work Opportunities Office, Washington, DC.
PUB DATE 1999-04-00
NOTE 107p.
PUB TYPE Guides - Non-Classroom (055)
EDRS PRICE MF01/PC05 Plus Postage.
DESCRIPTORS Academic Achievement; *Academic Standards; Adult Learning; Career Development; Cognitive Style; *Context Effect; *Curriculum Development; Diversity (Student); Educational Change; Elementary Secondary Education; Faculty Development; High School Seniors; *Integrated Curriculum; Learning Processes; Learning Strategies; Relevance (Education); School Community Relationship; *Thinking Skills
IDENTIFIERS Colorado; *Contextual Thinking

ABSTRACT

This manual explains how to foster contextual learning and curriculum integration. There are 12 sections: "Contextual Learning"; "Connecting Academic Standards with Contextual Learning"; "Using Career Development to Add Context and Relevancy to the Classroom"; "Curriculum Integration"; "Guidelines for Bringing Out the Best in ALL of Our Students"; "Involving Community Businesses in the Curriculum"; "The Nature of Change"; "What to We Know about Adult Learners?" "Teacher Externships: Things to Consider"; "Staff Development Techniques"; "What Works? 1999 Colorado High School Senior Survey"; and "Bringing Standards to Life References.[12]." (SM)

Bringing Standards to Life

A "How To" Guide to Contextual Learning and Curriculum Integration

Colorado State Board of Education

To lead, to serve, and to promote quality education for all.

Clair Orr Chairman	4th Congressional District *Kersey*
Patricia M. Chlouber Vice Chairman	3rd Congressional District *Leadville*
Ben L. Alexander	Member-At-Large *Montrose*
John Burnett	5th Congressional District *Colorado Springs*
Randy DeHoff	6th Congressional District *Littleton*
Patti Johnson	2nd Congressional District *Broomfield*
Gully Stanford	1st Congressional District *Denver*
William J. Moloney	Commissioner of Education, *Secretary to the State Board of Education*

Bringing Standards to Life
Workbook and Training Design

Developed by:	Susan McAlonan, Ph.D.:	Colorado Department of Education
With:	Heather Hotchkiss, MSW:	Colorado Department of Education
	Laurie Urich:	Consultant
Other Support:		
	Kelli Roark:	Colorado Department of Education

Funded by: **School-to-Work Opportunities Act – Colorado School-to-Career Partnership and Colorado Department of Education**

TABLE OF CONTENTS

Contextual Learning 6
Overview 7
✎ What Helps You Learn? 7
What is Contextual Learning? 8
The Importance of Contextual Learning 8
What is the Connection Between Context and Learning Styles? 9
What Does the Research Say? 10

Connecting Academic Standards With Contextual Learning 12
How is a Standards Driven Classroom Different? 13
✎ Contextual Teaching and Learning Self Review 14
How Do We Measure Success? 16
✎ What is Success? 16
Context in Curriculum 17
✎ Getting Creative with Context 17

Using Career Development to Add Context and Relevancy to the Classroom 18
✎ What Did You Want to Be? 19
Process of Progression in Career Development 20
✎ Career Development Activity? 21
✎ Changes In the Workplace 22
The Changing Workplace 22
Colorado General Workplace Competencies 24

Curriculum Integration 28
Level I - Thinking in Context 29
✎ Thinking in Context 29
Level II - Becoming More Intentional: Instruction & Assessment 31

✎ Integrating an Existing Lesson 32
Assessment 33
Developing Assessment Rubrics 33
What is the Purpose of Assessment? 33
Types of Assessment 34
Rubric Development 34
Worker Qualities Rubric (Summit County) 34A/B
Developing a Workplace Competency Rubric 35
✎ Level III - Creating an Integrated Lesson 36
Integrated Lesson - Elementary 36A
Integrated Lesson - Middle School 36B
Integrated Lesson - High School 36C
Integrated Lesson - Higher Education 36D
Integrated Lesson Template 36E
Curriculum Extensions 37

Guidelines for Bringing Out the Best in ALL of Our Students 38
Bringing Out the Best in All of Our Students 39
Adaptations for Unique Learners 39
✎ Addressing Diversity in the Classroom 41

Involving Community Businesses in the Curriculum 42

The Nature of Change 45
Making a Change 46
Why People Decide to Change 46
The Change Process 47
Nature and Cycle of Groups 49
Recycling Through the Process 51
✎ Pulling from Experience 51
What Role Does Conflict Play in the Change Process? 52
How Can Conflict Be Managed? 52
✎ Managing Conflict 53

How do I Support the Change Process? 54
Leadership 54
✎ Examining Your Experiences and Skills 54
Four Hats of Shared Leadership 55
What do Successful Change Agents Know? 57

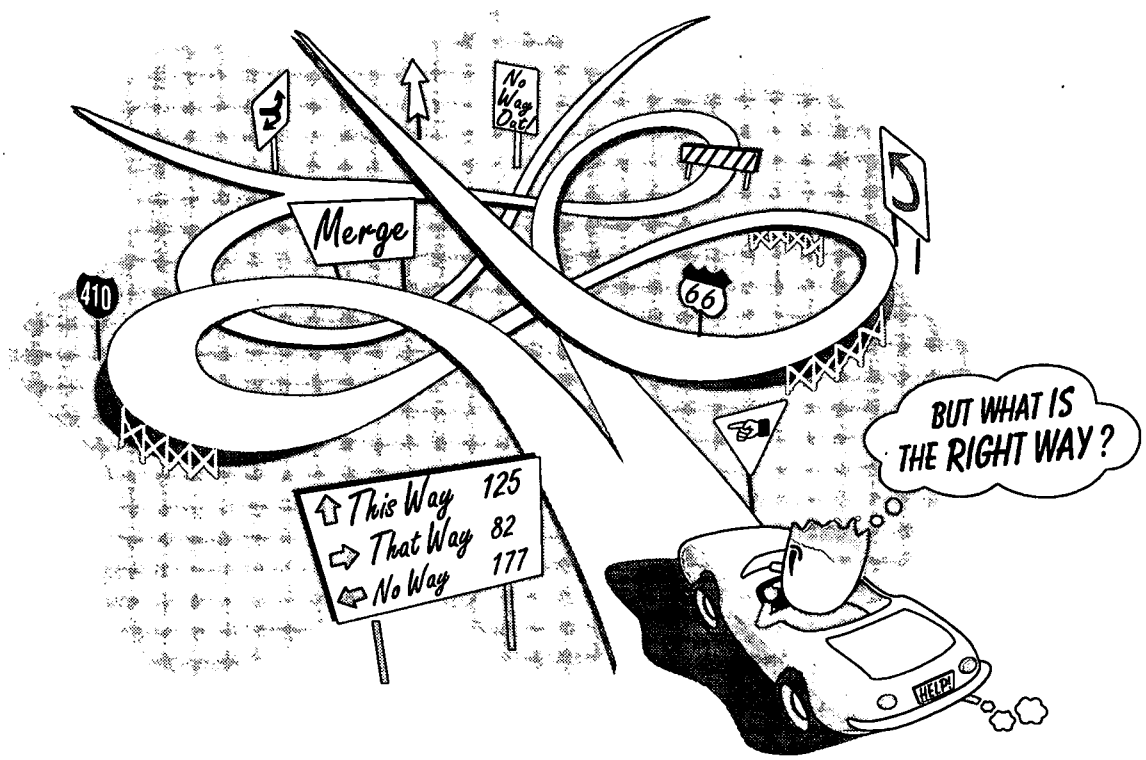
What Do We Know About Adult Learners? 58
✎ What's My Learning Style? 60
Results 61
✎ Personal Learning Style 61

Teacher Externships: Things to Consider 62

Staff Development Techniques 65

What Works?
1999 Colorado High School Senior Survey 69

Bringing Standards to Life References 90



CONTEXTUAL LEARNING

CONTEXTUAL LEARNING - OVERVIEW

"...there weren't a lot of boring lectures, but rather hands on activities and lessons that actually apply."
- High School Senior

✎ What Helps You Learn?

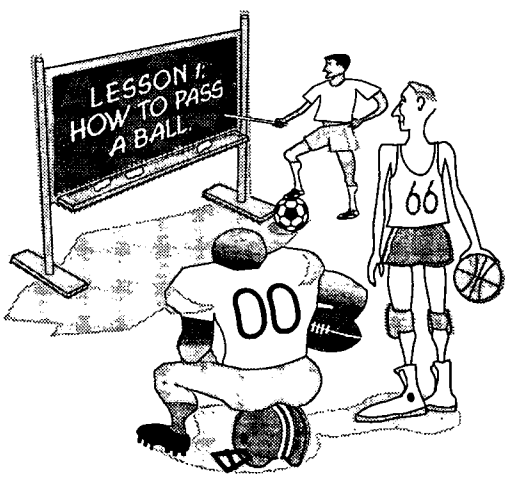
Identify a relevant professional or personal learning experience you have had?

Contrast this to a learning experience that was not relevant.

What did you learn about the importance of relevance and context?

From this activity you see the importance of learning in context. Let's examine the realm of Contextual Learning...

65% of Colorado seniors are bored half or more of the time.
- *What Works? Survey*
(See page 73)



What is Contextual Learning?

Contextual learning helps students process new information in a way that makes sense to them in their own world of memory, experience and response. Many terms have been used to describe **contextual learning**. Some of these include:

- ✯ hands-on
- ✯ learner-centered instruction
- ✯ real world education
- ✯ active learning
- ✯ integrated learning
- ✯ project-based learning
- ✯ applied learning
- ✯ school-to-career

The Importance of Contextual Learning

The mind naturally seeks meaning in context. That is in the environment where the student is located. Therefore this learning should occur in a number of places; in the classroom, laboratory, or work place. This way of learning encourages teachers to design learning environments that incorporate as many different forms of experience as possible, including social, cultural, physical, and psychological. **So, Contextual Learning**

- ❑ gives meaning, relevance and usefulness to learning;
- ❑ allows change to occur in the classroom;
- ❑ allows teaching to become more fun; and
- ❑ allows students to become more interested in learning.

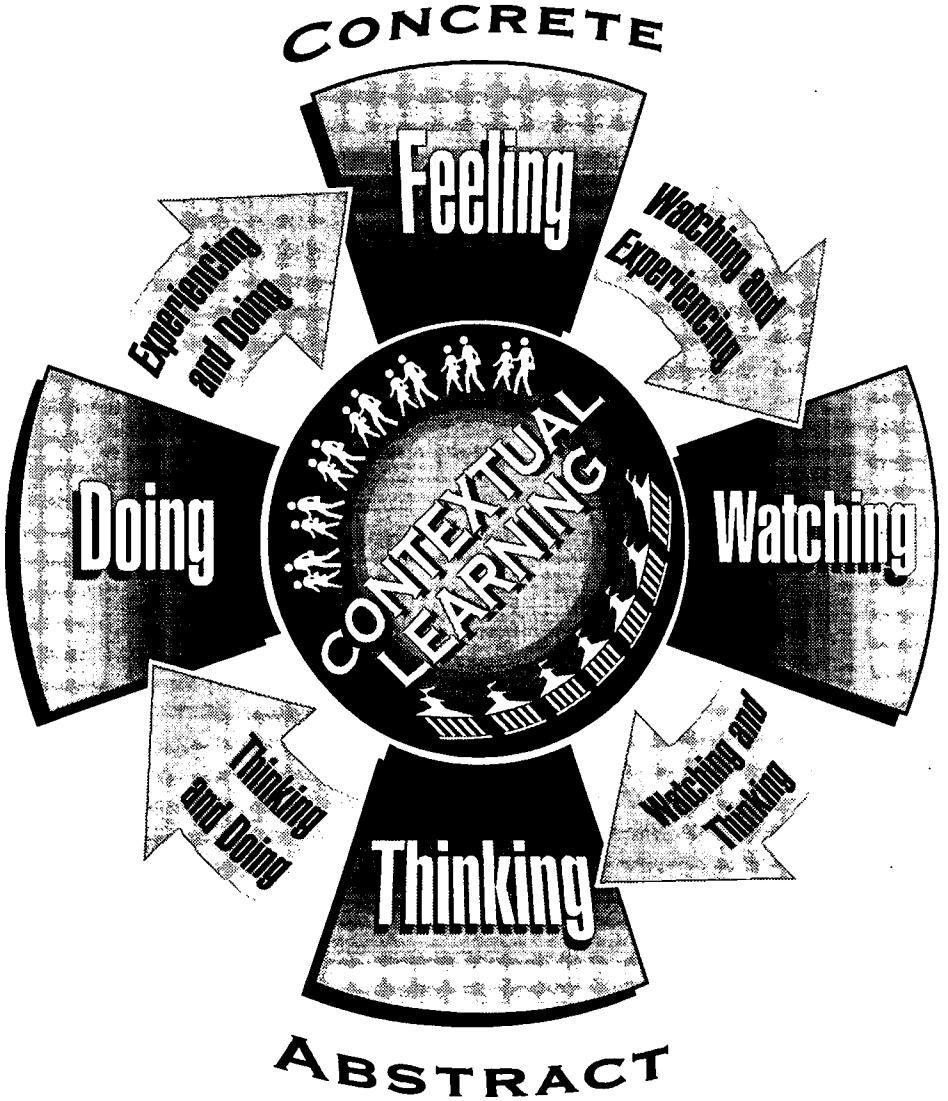
Students will find a meaningful relationship between abstract ideas and practical applications in the context of the real world.

For example:

A group of middle school students developed a full marketing plan for a local ski resort. They also created a newspaper and a radio advertisement for the ski resort. Working with a graphic illustrator, the students designed the newspaper advertisement. The students also worked with a local radio statio and taped their radio advertisement. This activity infused the academic standards of Reading & Writing and Visual Arts as well as many workplace competencies in a very meaningful and purposeful way.

What is the Connection Between Context and Learning Styles?

Contextual learning is multi-faceted and has components that respond to all learning styles. This approach to teaching and learning will assist students in using each learning modality.



Kolb recommends that all four styles of learning be implemented into your teaching methods. This will allow a student to increase their learning ability beyond a natural inclination.

[Adapted with permission: David A. Kolb, *Experiential Learning: Experience as the Source of Learning and Development*, New Jersey: Prentice-Hall, 1984]

CONTEXTUAL LEARNING - WHAT DOES THE RESEARCH SAY?

Learning in context is such an obvious notion that sometimes it is forgotten or dismissed as unimportant (Resource Bulletin, Contextual Learning, United States School-to-Work Office, April 1996). However, there is a great deal of theory and cognitive science (brain research) that supports using context to increase learning. Let's examine the major principles with regard to this theory.

Principles:

1. Learning is a natural function of the brain.

2. The three instructional methods associated with brain-based learning are
   - immersion - a learning experience that involves the student in the actual environment;
   - relaxed alertness - provides the student with a challenging environment, but removes any anxiety from the student; and
   - active processing – the student brings together and accesses information

3. 75 – 90% of what is learned is forgotten within 24 hours. To increase the retention of information and move information from immediate memory to short term memory and ultimately to long term memory, the content must
   - be understood by the learner and
   - apply to a frame of reference or have context for the learner

4. Learning in context can enhance brain development.

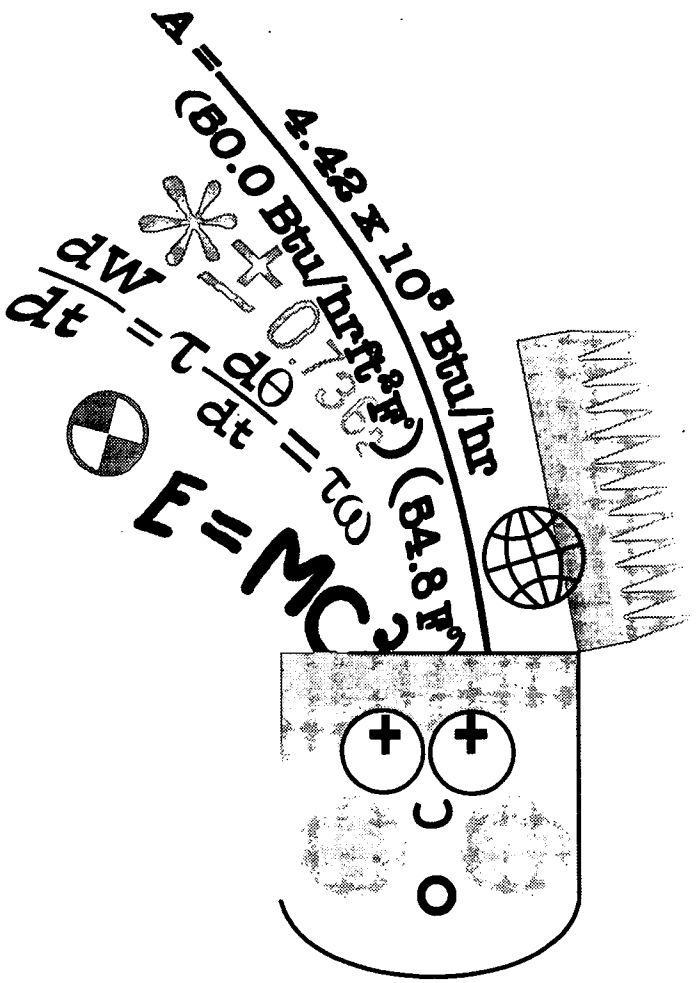
5. Learning Theory indicates that most people learn best through
   - personal participation and interaction;
   - hands-on activities; and
   - applying content across environments.

Our retention rate for how we learn is as follows:
5% Lecture
10% Reading
20% Audio Visual
30% Demonstration
50% Discussion
75% Practice by doing
90% Teaching others

As you can see, using context to increase student learning has powerful results. The following is a list of the different types of learning in context.

- **Relating** – learning from life experiences.
- **Transferring** – using and building on what a student already knows.
- **Applying** – learning how the knowledge/information can be used.
- **Experiencing** – learning from exploration, discovery and invention.
- **Cooperating** – learning from sharing, responding and communicating with other students.

To maximize student learning, it is important to consider the role of context in the classroom in relationship to the academic standards.



CONNECTING ACADEMIC STANDARDS WITH CONTEXTUAL LEARNING

CONNECTING ACADEMIC STANDARDS WITH CONTEXTUAL LEARNING

We have examined contextual learning, now let's discover how a standards driven classroom supports this...

How is a Standards Driven Classroom Different?

The focus of school improvement for Colorado Educators is standards driven education. The difference between the way we have taught in the past and a standards driven system is that standards-driven reform is based on the premise that students can achieve more if...

- ❑ the expectations for learning are clearly defined
- ❑ students know in advance the criteria for meeting those expectations, and
- ❑ instruction and assessment support the expectations and reinforce student effort.

Standards enhance accountability, focusing on student result, not on the curriculum, educational program, or other "inputs" used by a particular school.

Since the standards reflect a "thinking" curriculum that requires students to know basic skills, to communicate effectively, to solve problems, and to understand and apply academic principles and tools, there is a natural connection to contextual learning. The standards define a set of skills and knowledge that will prepare Colorado students for employment, citizenship, and life-long learning in the new century.

74% of Colorado seniors are motivated by active, hands-on lessons.
- *What Works? Survey*
(See page 73)

Standards-driven instruction insures that students understand what they need to know and be able to do.

Using what we now know about contextual learning, let's take a look at your classroom. The following checklist compares a traditional classroom to a contextual classroom.

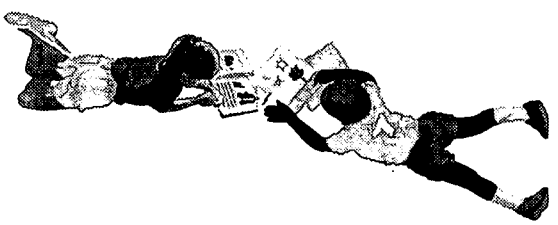
✎ Contextual Teaching and Learning Self Review

How relevant is your classroom? Teacher preference and style has a lot to do with how a classroom and learning is structured. However, it is important to integrate some level of contextualized learning into all classrooms to improve student engagement.

Review the following elements and put an "x" on the continuum below each element, somewhere between traditional classroom and contextual classroom, that most represents your current classroom and teaching instruction.

Elements	Traditional Classroom	Contextual Classroom
Delivery of Instruction	Primarily rely on lectures	Active and hands-on lessons that focus on student discovery
Material Selection	Primarily textbooks, workbooks, and worksheets	A variety of materials and resources are used, this includes community-based businesses, print and technology.
Teacher Orientation	Didactic dissemination of information	Interactive facilitation of learning
Lesson Focus	Focus on academic subject in isolation	Focus on the purpose and connection of the academic subject beyond the classroom.

Elements	Traditional Classroom	Contextual Classroom
Student Organization	Primarily individual classroom seat work	Interactive group work – opportunities for learning outside the classroom and school.
Student Responsibility	Teacher controls and directs classroom	Students have choices and opportunities for self-direction
Student Assessment	Written tests at the end of a unit and/or lesson for a grade	Assessment provides on-going feedback for student improvement. It is focused on student work, observations, and demonstration environments



What changes would you like to make to improve the contextual learning in your classroom?

1.

2.

3.

4.

5.

How Do We Measure Success?

Now that we understand the importance of contextual learning, we must determine how to add context to the classroom. To do this we must first examine our purpose. As educators we want our students to be successful. But what is success? Take a minute to reflect on your thoughts about the purpose of education and how you define success for our students.

✎ What is Success?

I think the purpose of education is...

I saw one of my students after high school graduation. This student was successful because...

1.

2.

3.

You might have thought the student...

- is a life long learner,
- understands his/her strengths and interests,
- has a good job,
- is happy with his/her life,
- is independent and self-sufficient,
- is motivated and excited about the next "chapter" in life,
- has a plan and life goal, and
- was prepared for college.

We hope that through their education students will be "successful." Using contextual learning can enhance the ability of students to set life goals that match their interests and abilities. Let's explore some of the ways context can be added to enhance a standards-driven curriculum.

Context in Curriculum

Context can be used to add rigor and relevance to the curriculum and to improve student engagement. There are many ways to add context to academic subjects. Identifying ways to connect academics to student interests and experiences make the subject more meaningful and interesting for them.

✎ Getting Creative with Context

Brainstorm some ways that context can be integrated into your standards-driven classroom...

1.

2.

3.

4.

5.

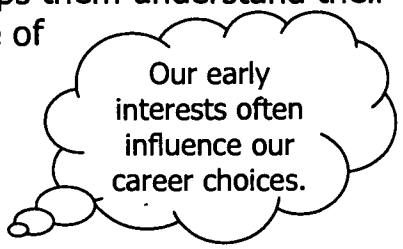
6.

"I hated Math, but I ended up liking algebra because my teacher applied it to real life."
- High School Senior
(What Works? Survey)

USING CAREER DEVELOPMENT TO ADD CONTEXT AND RELEVANCY TO THE CLASSROOM

USING CAREER DEVELOPMENT TO ADD CONTEXT AND RELEVANCY TO THE CLASSROOM

There are many ways to add relevance and context to the classroom. One of the most exciting ways is to focus on career development. This not only helps students see the relationship of academics to the world but also helps them understand their own strengths and interests. As we examined the purpose of education in the previous section, it was clear that having life goals is critical to success and how our work is an important part of who we are. Let's examine our own career development process.



What Did You Want to Be?

1. List two occupations you considered as you were growing up.

2. Are you engaged in either occupation now?

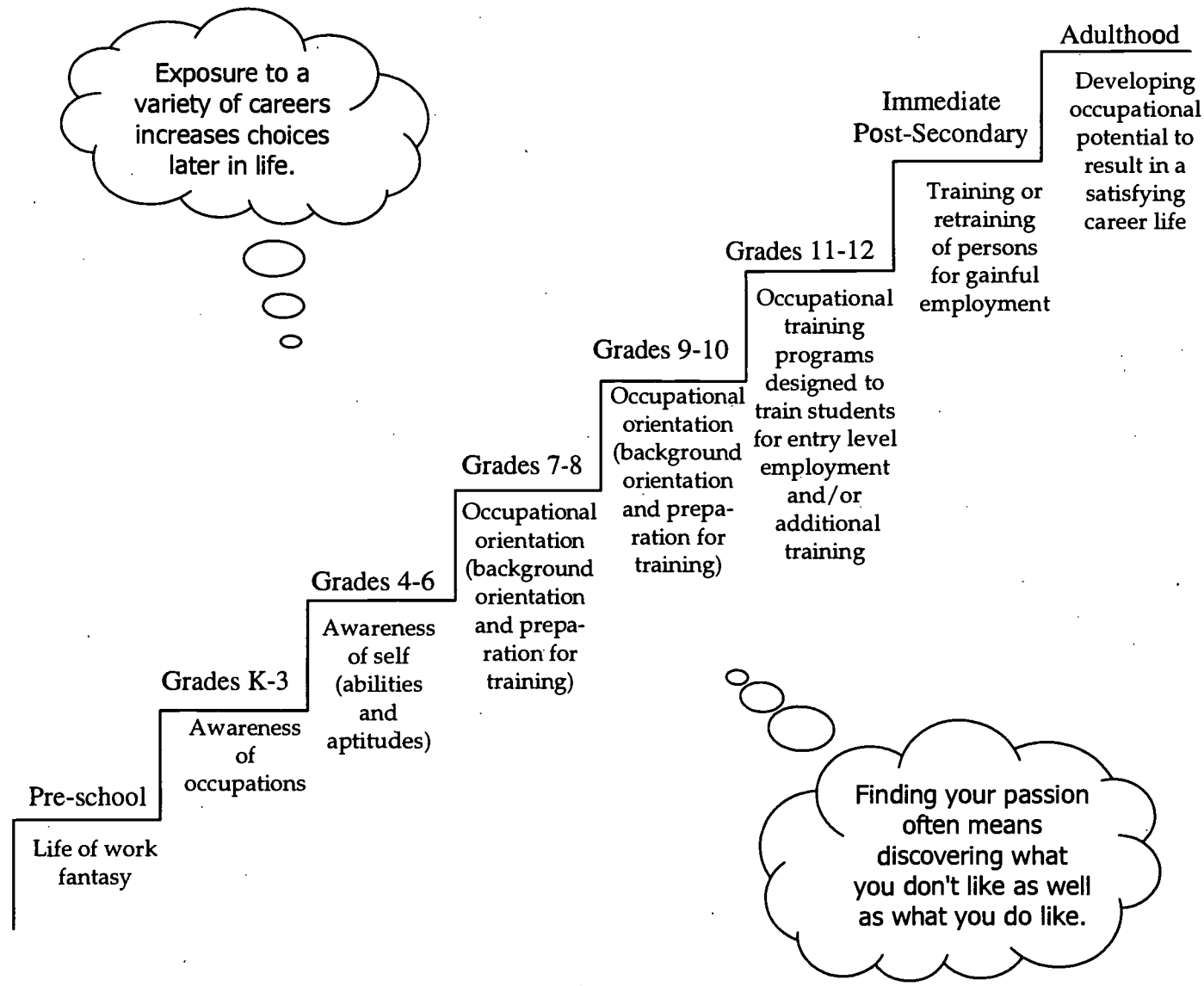
3. What experiences did you have or what people did you know who influenced you most in your occupational decision?

4. How did your early experiences shape your career choices?

[Adapted with permission: *PEATC NEXT STEPS publication*]

THE PROCESS OF PROGRESSION IN CAREER DEVELOPMENT

Career development is a process just like learning to walk and talk. There are certain stages that should be addressed at Elementary, Middle School, and High School and beyond. The following diagram shows the progression of career development.



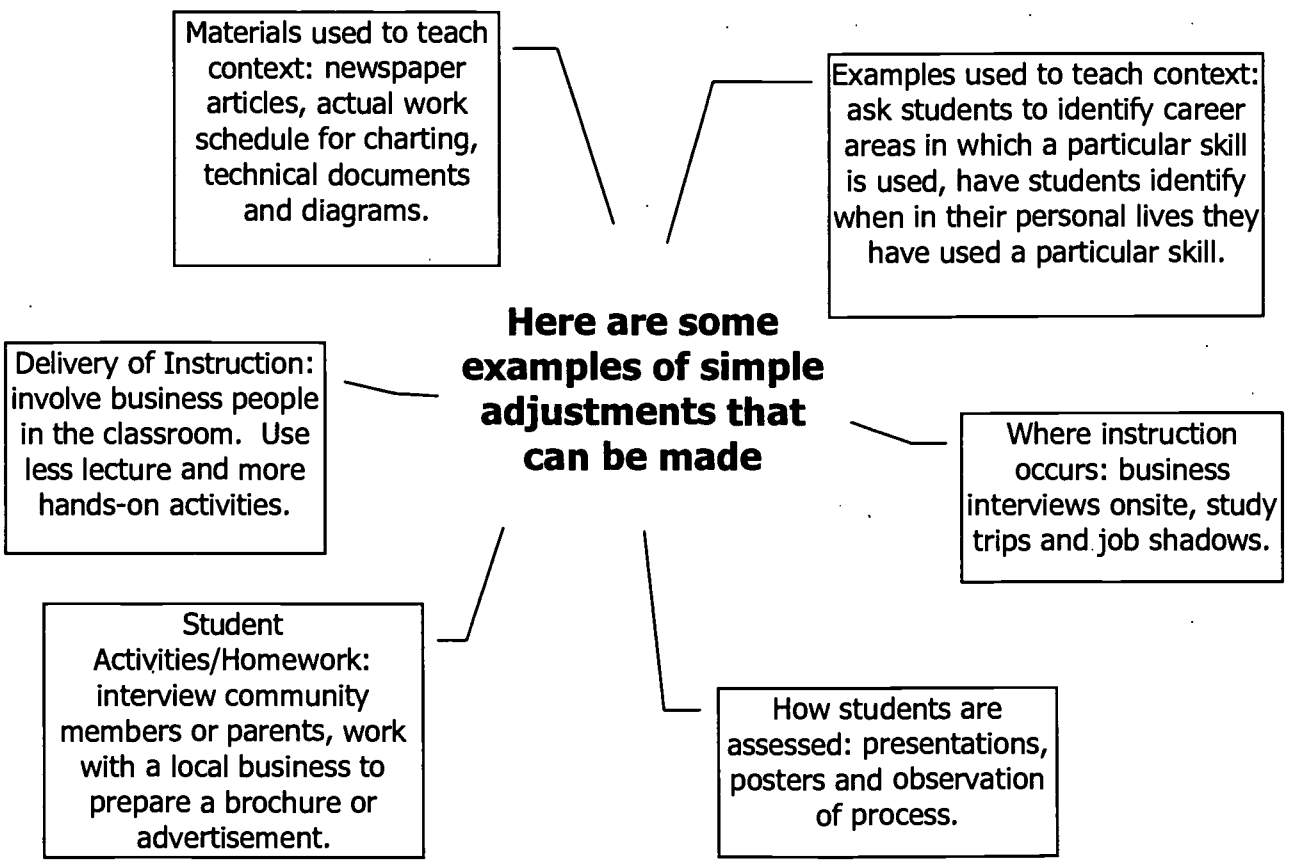
It is critical to assist students with the awareness, exploration and preparation stages of this process. Each step of the way supports students in realizing his/her strengths and aspirations. It also allows students to practice and develop skills, and become more confident with those skills.

✎ Career Development Activity

Brainstorm some ways you could include career development into your classroom in relationship to the standards.

Elementary	Middle School
•	•
•	•
•	•
•	•

High School	Post-Secondary
•	•
•	•
•	•
•	•



Early experiences are important to setting your career direction, therefore if you have limited experiences, you have a limited group of career options to explore. The more choices a student has the more likely they are to find their passion.

✎ Changes in the Workplace

Think about the available careers when you were growing up. What new careers are now prevalent that were not when you were a child?

What ways has the work world changed?

The Changing Workplace

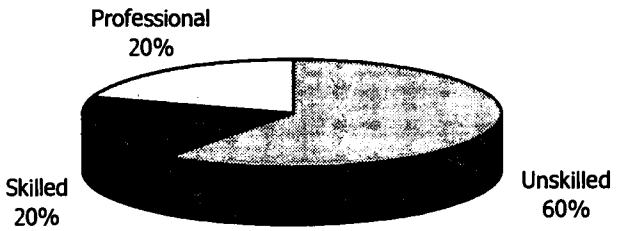
Career development may be more important now than in the past because of the dramatic changes in the world of work. We know that work has changed. It is important to examine the impact the changing workplace has on society.

- ❑ The economy is international and global.
- ❑ Technology is the driving force in the work place.
- ❑ New jobs are being created every day.
- ❑ Workers rarely stay with the same company until retirement.
- ❑ There are fewer and fewer unskilled occupations.
- ❑ There are more small businesses and entrepreneurs.
- ❑ Thinking, problem solving and technology skills are in demand.

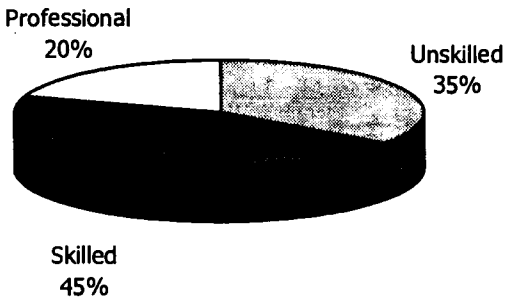
People change careers six to eight times over their lifetime.

Changes in Job Skills (1950 - 2000)

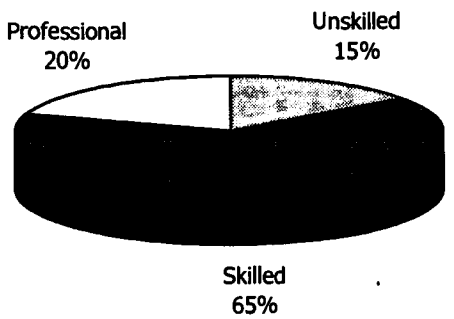
1950



1991



2000



As you can see, there have been some changes in the workplace. Since the 1950's there has been a dramatic increase in the need for skilled workers, those who have some training beyond high school. It is very difficult for a person to enter the labor market as an unskilled worker. It is interesting to note that professional occupations (those requiring a bachelors degree or higher) have stayed consistent since the 1950's representing about 20% of the workforce.

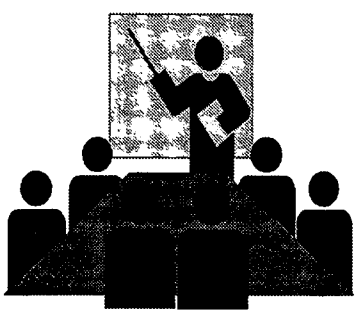
College completion is enhanced when students know their interests and select a college accordingly.

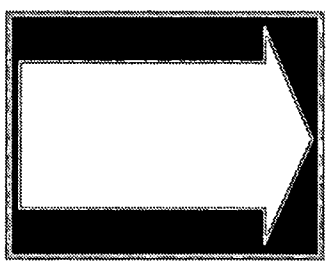
Colorado General Workplace Competencies

It is important for students to assess their strengths and interests in relationship to careers. It is also vital for them to learn good general work skills and habits that are required in any career area. The Colorado General Workplace Competencies represent the skills needed to succeed in school, college and in careers regardless of the specific occupational area.

These competencies will assist educators and students in understanding what skills must be taught in conjunction with academic instruction. Students will know the requirements of the workplace, and businesses will have a consistent set of standards that promote a skilled workforce.

*The **Colorado General Workplace Competencies** were developed by:*
Colorado Department of Education
Colorado School-to-Career Partnership
Business Task Force sponsored by Colorado Association of Commerce & Industry





Remember...Workplace Competencies should be taught and assessed intentionally and students should understand how they apply across environments.

Communication Skills - Demonstrates the ability to receive and relay information clearly and effectively

- ❑ **listening** - receives, attends to, understands and responds to verbal and non-verbal messages
- ❑ **speaking** - clearly organizes and effectively presents ideas orally
- ❑ **reading** - locates, understands and interprets written information in prose and documents to perform tasks
- ❑ **writing** - organizes and effectively presents ideas and information in writing
- ❑ **interpreting** - delineates and analyzes oral and written information and synthesizes information into a conclusion
- ❑ **negotiating** - works toward agreement while maintaining position
- ❑ **persuading** - communicates ideas to justify position, overcome resistance and convince others

Organizational skills - Demonstrates the ability to work effectively and efficiently

- ❑ **planning** - devising and outlining a process to achieve a goal and timeline
- ❑ **time management** - applies appropriate time to task and manages multiple priorities
- ❑ **using resources** - identifies, organizes, plans and allocates resources
- ❑ **systems thinking** - understands the nature of systems, develops and adapts systems to meet organizational needs
- ❑ **evaluating** - collects, evaluates and uses data to monitor and improve performance

Thinking Skills - Demonstrates the ability to use reasoning

- **problem solving** - identifies and recognizes a problem, considers alternatives, devises and implements a logical plan of action
- **decision making** - uses a process to identify goals and constraints, evaluate alternatives and reach a conclusion
- **creative thinking** - generates new and innovative ideas
- **learning** - uses efficient techniques to acquire and apply new knowledge and skills
- **analyzing** - identifies bias of information sources, evaluates contradictory information and effectively manages information
- **mathematics** - performs basic computations and solves practical problems by applying appropriate mathematical techniques

Worker Qualities - Demonstrates the characteristics of an effective worker

- **self-management** - demonstrates punctuality, readiness to work, initiative and the capacity for life long learning and personal growth
- **team member** - contributes to group effort through cooperation and consensus
- **responsibility** - follows through consistently with honesty and integrity
- **flexibility** - shows versatility and the ability to change
- **leadership** - creates a direction/vision for others to follow, aligns management methods with vision and implements a system of accountability
- **works with diversity** - accepts differences and works well with individuals from a variety of backgrounds and/or with divergent philosophies or ideas

Technology Skills - Demonstrates the ability to work with a variety of technologies and equipment

- ❑ **demonstrates computer literacy** - uses key boarding skills, computer programs, and understands basic computer operations
- ❑ **selects technology** - chooses appropriate procedures, tools or equipment
- ❑ **applies technology** - understands overall intent and proper procedures for using selected technology and equipment
- ❑ **uses technical information** - interprets and uses data generated from a variety of technological devices

Note: Technology refers to any device, tool or piece of equipment that facilitates or supports efficient completion of work. Some examples include: machinery, computers, scientific equipment, fax machines, voice mail, overhead projectors, VCRs, cash registers, calculators, etc.

What Works! Colorado High School Senior Survey Results

Students with more extensive career experiences compared to those without are more likely to:

- ❑ Go on to post-secondary education after graduation
- ❑ Select a college/school based on a career goal
- ❑ Select a college major
- ❑ Know their career strengths and interests
- ❑ Be excited about their future

(Refer to What Works? Survey, Pages 69-89 for specific results)

CURRICULUM INTEGRATION

CURRICULUM INTEGRATION

In review, we know that contextual learning improves student motivation and achievement. We understand that career development is critical to personal success and is a process. We recognize that the workplace is changing and employers need employees with general skills in communication, organization, thinking, technology and good worker qualities (which are also necessary to succeed in college). But how do you integrate all of this into a standards based lesson?

The first method is to use your existing curriculum and make a few adjustments.

LEVEL I

✎ Thinking in Context

Think of a standards based lesson you taught last week. What academic skill were you focusing on?

List the occupations that would use this academic skill.

Review the workplace competencies. Which of these were addressed in this lesson?

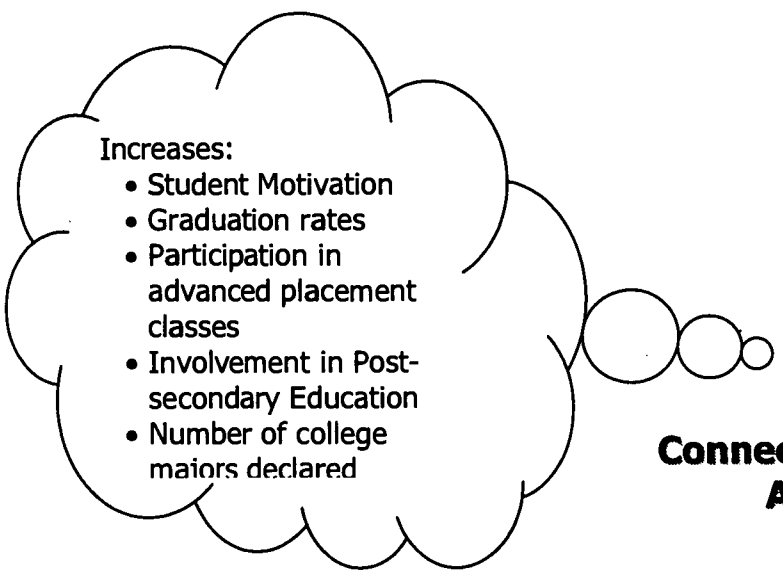
How could you be more deliberate in teaching career development or a specific workplace competency in relationship to your standards driven lesson?

1.

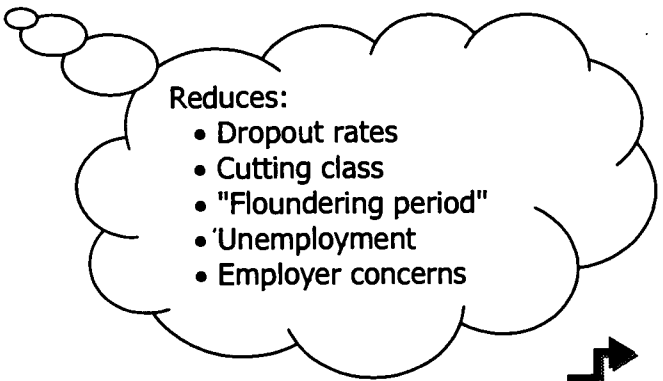
2.

3.

[Adapted with permission: *The Workplace Applications Project: Connecting the Classroom to the World of Work*. South King County Tech Prep Consortium.]



Connecting Careers to Academics



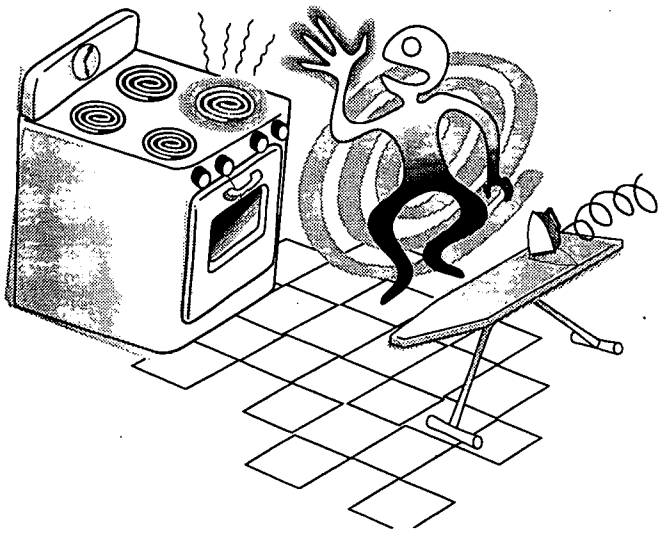
LEVEL II

Becoming More Intentional: Instruction & Assessment

As you completed the last activity, you probably realized that you were already including a lot of context and career development in your classroom. Lets look at how you can take this to the next level by adapting an existing lesson. The next step is to more intentionally address these areas.

The biggest reason to become more intentional is to make sure that learning transfers from one environment to another.

An interesting conversation transpired between a teacher and a businessperson. The employer was complaining that her workers did not know how to work in teams. The teacher was surprised in hearing this, knowing these student workers had been in his class, which focused on cooperative learning.



False Assumption: People predictably transfer learning from one situation to another.

How can the teacher improve the transfer of cooperative learning taught in the classroom to the workplace?

✎ Integrating an Existing Lesson

I. Select a lesson that you use in your class. (This lesson should relate to a specific district academic content standard and benchmark.)

II. Turn to pages 25-27 and select **one** of the 28 competencies that connects with your lesson (It is suggested that you select a competency other than reading, writing or math because these are already addressed in the academic standards).

III. Complete the following activity.

Subject Area:

Academic Content Standard and Benchmark:

Describe how you will integrate the workplace competency into your lesson. Make sure that you teach the workplace competency in isolation before you relate it to the academic content (For example: If you selected planning, conduct a learning activity that identifies the general elements of planning that can be used in any situation. Then show the students how this applies to the content)

Identify two ways that you can integrate career development activities into this lesson. Make sure that the career activities are directly connected to the academic content. The career activities should add relevance and enhance the opportunity for the student to achieve the academic standard.

Developing Assessment Rubrics

One of the biggest differences in a standards-driven classroom is that you start with what you want the students to learn. This is most commonly translated into assessment rubrics. Once you have selected an academic content standard and had some practice in developing a standards-based lesson it is a good idea to begin with the construction of the assessment. This way you will know specifically what a student is to learn and to know. Then you can develop the instruction that goes with assessment.

In addition to the assessment of the academic content standard, an assessment on the workplace competency should also be used.

What is the Purpose of Assessment?

Good assessments provide specific and useful information to students so they know the skills and knowledge they have mastered. Successful assessment practices:

- ❑ Allow students multiple opportunities to demonstrate their skills and knowledge
- ❑ Hold students accountable for their learning

Quality Assessment should also:

- ❑ Guide student learning
- ❑ Guide instruction
- ❑ Enhance accountability

One teacher used a newspaper editor to assist in designing the assessment for grammar and punctuation.

A math teacher worked with surveyors to develop an assessment for geometry.

(Adapted with Permission from Sherrie Schneider)

Types of Assessments

There are many methods that can be used in assessing student performance. The following table describes some of these.

Using a variety of assessments to build a body of evidence supports the different learning styles of students.

Constructed Responses	Products	Performances	Process-Focused
Fill in the Blank	Essay	Oral Presentation	Oral Questioning
Short Answer	Research Paper	Dance/Movement	Observation
Label a Diagram	Log/Journal	Lab Demonstration	Interview
Show your Work	Story/Play	Dramatic Reading	Conference
Multiple Choice	Poem	Enactment	Process Description
Visual Representation *Flow Chart *Graph/Table *Matrix *Computer *Illustration	Exhibit/Model	Debate	"Thinking Aloud"
	Portfolio	Recital	Learning Log
	Project	Demonstration of an Academic Concept in a Business	Reflective Journal
	Video/Audio Tape		

(Adapted with Permission from Sherrie Schneider)

Rubric Development

The first step in a good assessment is to design a rubric. Lets now look at some examples of assessment rubrics. Review the following Worker Quality Rubrics from the Summit County School-to-Career Partnership (pages 34A-34B).

WORKER QUALITIES

Quality	Not Yet Proficient	Working Towards Proficiency		Proficient	Exceeds Proficient
Self Management Demonstrates punctuality, readiness to work, initiative, and the capacity for life-long learning and personal growth.	• Unaware of importance of being on time. • Unprepared to work. • Lacks initiative. • Sets goals with assistance. • Meets personal goals infrequently.	• Recognizes importance of being on time and prepared, yet has difficulty following through. • Self-starts with direction. • Sets goals independently/meets goals with assistance.	• Frequently on time. • Frequently is prepared. • Frequently self-starts with or without instruction. • Sets and meets personal goals.	• Consistently on time. • Consistently prepared. • Consistently recognizes and begins to anticipate necessary tasks. • Knows how goals impact self and others.	• Arrives on time and/or is accountable. • Arrives prepared. • Demonstrates self-direction and anticipates task needs. • Identifies and creates support for reaching goals.
Team Member Contributes to group effort through cooperation and consensus.	• Unable to work in-groups.	• Recognizes responsible behavior; has difficulty following through.	• Contributes to group process, e.g. ideas, suggestions, effort, and problem solving.	• Serves as an integral part of the group process by collaborating and working through conflicts; develops strategies for accomplishing team objectives.	• Works effectively in a variety of team roles (leader, facilitator, recorder, etc.)
Responsibility Follows through consistently with honesty and integrity.	• Unaware of what constitutes responsible behavior.	• Recognizes responsible behavior, yet has difficulty following through.	• Frequently demonstrates responsible behavior and takes responsibility for actions.	• Consistently demonstrates responsible behavior and recognizes the effects that personal behavior has on others.	• Serves as a role model for responsible behavior; demonstrates high personal standards.
Flexibility Shows versatility and the ability to change.	• Unaware that there are many option/solutions to a given problem or situation. • Unable to deal with change appropriately.	• Begins to modifies one's individual preferences, priorities, and work style in order to work smoothly with others. • Beginning to demonstrate adaptability to different work and learning environments and conditions.	• Adjusts to new information and ideas. • Makes reasonable compromises. • Frequently modifies one's individual preferences, priorities, and work style in order to work smoothly with others. • Frequently demonstrate adaptability to different work and learning environments and conditions.	• Applies creative and agile thinking to problems. • Consistently modifies one's individual preferences, priorities, and work style in order to work smoothly with others. • Consistently demonstrate adaptability to different work and learning environments and conditions.	• Devises new option and approach. • Gaining and using skills to assume a variety of team roles.

Quality	Not Yet Proficient	Working Towards Proficiency		Proficient	Exceeds Proficient
Leadership Creates a direction/ vision for others to follow, aligns management methods with vision and implements a system of accountability	• Unable to support others in learning. • Unable to communicate thoughts, feelings, and ideas to justify a position.	• Beginning to support others learning. • Beginning to communicate thoughts, feelings, and ideas to justify a position.	• Frequently supports others learning. • Frequently communicates thoughts, feelings, and ideas to justify a position.	• Selects and uses an appropriate leadership style for different situations. • Uses effective delegation techniques. • Encourages, persuades, convinces, or motivates an individual or group.	• Uses appropriate team-building skills. • Establishes credibility through competence and integrity. • Takes minority viewpoints into consideration. • Responsibly challenges existing procedures, policies, and authorities. • Provides feedback in a constructive manner.
Works with Diversity Accepts differences and works well with individuals from a variety of backgrounds and/or divergent philosophies and ideas.	• Unable to understand one's own culture and how it differs from other cultures. • Unable to accept individual differences or work with individuals from a variety of backgrounds and/or divergent philosophies and ideas.	• Beginning to accept individual differences or work with individuals from a variety of backgrounds and/or with divergent philosophies and ideas. • Beginning to understand one's own culture and how it differs form other cultures.	• Recognizes the importance to communicate and work with people of diverse background and abilities. • Frequently accepts individual differences or works with individuals from a variety of backgrounds and/or with divergent philosophies and ideas. • Frequently understands one's own culture and how it differs from other cultures.	• Consistently accepts individual differences or works with individuals from a variety of backgrounds and/or with divergent philosophies and ideas. • Consistently understands one's own culture and how it differs from other cultures.	• Uses positive techniques for resolving cultural/ ethnic problem situations. • Evaluates on the basis of performance not stereotypes. • Understands how people with different cultural/ethnic backgrounds behave in various situations. • Encourages others to communicate and work with people of diverse backgrounds and abilities.

Developing a Workplace Competency Rubric

Using the following template, select a workplace competency from the categories of communication, organization, thinking and technology skills. Once you have selected the competency you wish to focus on, develop a rubric for this. You may want to use the same competency that you identified in your work on page 32.

Workplace Competency	Not Yet Proficient	Working Toward Proficiency	Proficient	Exceeds Proficient

The process for developing a rubric is the same for the academic content standard. Using the lesson on page 32, develop a rubric for the academic content.

Academic Content Standard	Not Yet Proficient	Working Toward Proficiency	Proficient	Exceeds Proficient

LEVEL III

✎ Creating an Integrated Lesson

Now you are ready to create a new integrated lesson. The purpose of this activity is to create a lesson in your subject area. This lesson should relate to an academic content standard and include relevancy through the integration of career development and one workplace competency. Each component of the lesson should relate to the academic content standard.

Using the following lesson plan template or one of your own, complete the following.

I. Select a specific district standard and benchmark.

II. List the standard and benchmark on the lesson plan template.

III. Select <u>one</u> of the 28 competencies (on pages 25-27) that connects with the content standard and benchmark. (*It is suggested that you select a competency other than reading, writing or math because these are already addressed in the academic standards.*)

IV. List the workplace competency on a lesson plan template.

V. Complete the lesson plan to include:
- Academic content standard learning activity
- Workplace competency learning activity (*related directly to the content standard learning activity; this should be taught in isolation first and then connected to the academic content)*
- Career development and community learning activity *(these learning activities should relate directly to the academic content standard learning activity)*
  - Identify the elements for assessing the:
    - Academic content standard
    - Workplace competency

[Note: It is advisable to create the assessments prior to developing the learning activities. This will assist you in developing a lesson that will relate directly to academic content standard and benchmark, and the workplace competency. This will also assist you in identifying what skills you want the student to learn before you create a new lesson.]

K-4

GRADE LEVEL

K 1 2 3 4 5 6 7 8 9 10 11 12

STATE STANDARD

1. Students read and understand a variety of materials.

BENCHMARK

a. using a full range of strategies to comprehend materials such as directions, nonfiction material, rhymes and poems, and stories

WORKPLACE COMPETENCY

Thinking Skills: Learning
uses efficient techniques to acquire and apply new knowledge and skills

QUOTATION

In the media center, I make sure to have a variety of careers represented among the fiction and non-fiction literature available.

-- Fran Adams
Summit Cove Elementary

READING & WRITING

LEARNING ACTIVITIES

ACADEMIC CONTENT STANDARD

Students research the uses and sources of water in the community. Students keep a daily journal of resources and key learnings as well as present their findings orally to the class. Teachers present specific reading strategies (for example, Dole/Pearson) to assist students in researching materials appropriately.

WORKPLACE COMPETENCY

THINKING SKILLS: LEARNING

Discuss reading and research techniques appropriate for the topic and level of students.

CAREER DEVELOPMENT

Take study trips into the community to better understand how water is used (i.e. car wash, fire department, restaurants, recreation areas, supermarkets).

Explore the uses of water consumption, cleaning, recreation and safety. Also, explore the careers related to these different uses and the role water plays. For example, careers in treatment facility maintenance, chemical and hydraulic engineering, and sewage/drainage systems maintenance are related to the handling of contaminated water.

COMMUNITY

Based on what the class has learned, plan an anti-pollution/clean-up project in your community (for example, trash pick-up along a river, promoting conservation within the school by installing reduced-flow faucets/toilets).

ASSESSMENTS

ACADEMIC CONTENT STANDARD

Evaluate the students' research papers and oral presentations according to an appropriate rubric. Evaluate the use of appropriate documentation and the use of a variety of sources.

WORKPLACE COMPETENCY

THINKING SKILLS: LEARNING

To demonstrate learning, students use multimedia (slides, pictures, essays) to make a presentation to the class or other students on how the community uses water and that highlights a career of interest in this area.

Evaluate the students on:

- The use of a variety of resources to develop the presentation
- The ability to integrate information into the presentation
- The use of multimedia equipment

* Note: The career interests highlighted should be geared to student level (i.e., K-4).

GRADE LEVEL **5-8**

K 1 2 3 4 5 6 7 8 9 10 11 12

STATE STANDARD

2. Physical Science: Students know and understand common properties, forms and changes in matter and energy.
   2.1 Students know that matter has characteristic properties, which are related to its composition and structure.

BENCHMARK

a. examining, describing, comparing, measuring and classifying objects based on common physical and chemical properties

WORKPLACE COMPETENCY

Thinking Skills: Mathematics
performs basic computations and solves practical problems by applying appropriate mathematical techniques

RESOURCE

U.S. Space Foundation
NASA RERC, Suite 2301
2860 South Circle Drive
Colorado Springs, CO 80906
719/576-8000
719/576-8801 (fax)
www.ussf.org

LEARNING ACTIVITIES

ACADEMIC CONTENT STANDARD

Students will find the mass and volume of different liquids (water, salt water, vegetable oil, motor oil and alcohol). Students then calculate the density of each liquid, using mass divided by volume and keep track of their data in a table and graph the densities. From their graph and data table, students predict where in a column each liquid will fall based on each liquids relative density. The teacher then pours the liquids into a tall, graduated cylinder to see how density affects the placement in the column of each liquid.

WORKPLACE COMPETENCY

THINKING SKILLS: MATHEMATICS

Students calculate density and use a data table and graph to convey their information and make a prediction.

CAREER DEVELOPMENT

Invite a scientist or engineer into the classroom to discuss the role mathematics plays in his/her job.

COMMUNITY

Students can take a study trip to a survey site to see mathematics in action.

ASSESSMENTS

ACADEMIC CONTENT STANDARD

Students will be evaluation on:
- the accuracy of their density calculations
- the completeness of their data table
- the accuracy of their graph
- how close their prediction matched the actual column

WORKPLACE COMPETENCY

THINKING SKILLS: MATHEMATICS

Students will be evaluation on:
- the accuracy of their density calculations
- the completeness of their data table
- the accuracy of their graph
- how close their prediction matched the actual column

EXTENSIONS

- Team up science and math classes.

GRADE LEVEL: 9-12

K 1 2 3 4 5 6 7 8 9 10 11 12

STATE STANDARD

6. Students link concepts and procedures as they develop and use computational techniques, including estimation, mental arithmetic, paper-and-pencil, calculators, and computers, in problem-solving situations and communicate the reasoning used in solving these problems.

BENCHMARK

a. using ratios, proportions, and percents in problem-solving situations

WORKPLACE COMPETENCY

Thinking Skills: Problem Solving
identifies and recognizes a problem, considers alternatives, devises and implements a logical plan of action

RESOURCE

The Annenberg Foundation and the Corporation for Public Broadcasting is a non-profit organization who's mission is to help schools and communities improve their math and science education programs for all students in kindergarten through 12th grade. A collection of math and science videos, software, and materials are available through:

Annenberg/CPB Math & Science Project
Department C-96
P.O. Box 2345
South Burlington, VT 05407-2345
(800) 965-7373
(802) 864-9846 (fax)
www.learner.org

LEARNING ACTIVITIES

ACADEMIC CONTENT STANDARD

Students use ratios, proportions and percents to calculate one of the following:
- the appropriate medication dosage for a variety of patients
- the individual statistics of a ball player
- the amount of ingredients needed to feed various numbers of people.

WORKPLACE COMPETENCY

THINKING SKILLS: PROBLEM SOLVING

Students learn and use the following problem solving process to do the above activity:
- identify the problem
- identify all available resources (internet, nurses, teachers, calculator, etc.)
- brainstorm ideas for solving the problem, accepting all ideas
- discuss the appropriateness and usefulness of each idea
- try the technique and make any adjustments necessary
- evaluate the technique
- identify alternatives if necessary and apply it to a concrete problem.

CAREER DEVELOPMENT

Invite a doctor, veterinarian, nurse, lab technician, or hospice care provider into the classroom as a guest speaker to discuss how he/she uses ratios, proportions, percents, and problem solving on the job. The speakers also can share information about their own career paths and the skills/experience requirements for jobs in their fields.

COMMUNITY

Students shadow a doctor, nurse or other health care provider and write a paper reflecting how ratios, proportions, percents, and problem solving are used in that profession.

ASSESSMENTS

ACADEMIC CONTENT STANDARD

Evaluate students on their ability to:
- accurately calculate ratios, proportions and percentages
- identify two other areas that use ratios, proportions and percentages.

WORKPLACE COMPETENCY

THINKING SKILLS: PROBLEM SOLVING

Assess students on their ability to successfully follow the problem solving process. Students will describe, in writing, the work completed in and the outcome of each step of the process.

EXTENSIONS

Take a study trip to a hospital or veterinary clinic to observe the application of these skills.

HIGHER EDUCATION

GRADE LEVEL

STATE STANDARD

3. Students write and speak using conventional grammar, usage, sentence structure, punctuation, capitalization and spelling.

BENCHMARK

d. using manuscript forms specified in various style manuals for writing

WORKPLACE COMPETENCY

Communication Skills: Writing
organizes and effectively presents ideas and information in writing

READING & WRITING

LEARNING ACTIVITIES

ACADEMIC CONTENT STANDARD

Write a research paper using the correct form for student's proposed career area. Give students different papers in different forms to identify the manuscript form used.

WORKPLACE COMPETENCY

COMMUNICATION SKILLS: WRITING

Write a research paper in an area of career interest.

CAREER DEVELOPMENT

Get papers from professional journal (in students career interest area) and identify the style.

COMMUNITY

Use community members to discuss how writing and manual forms are important in their careers.

ASSESSMENTS

ACADEMIC CONTENT STANDARD

Evaluate the students on their ability to:

- use proper manuscript form
- write an analysis of the paper defending students choice of manuscript form

WORKPLACE COMPETENCY

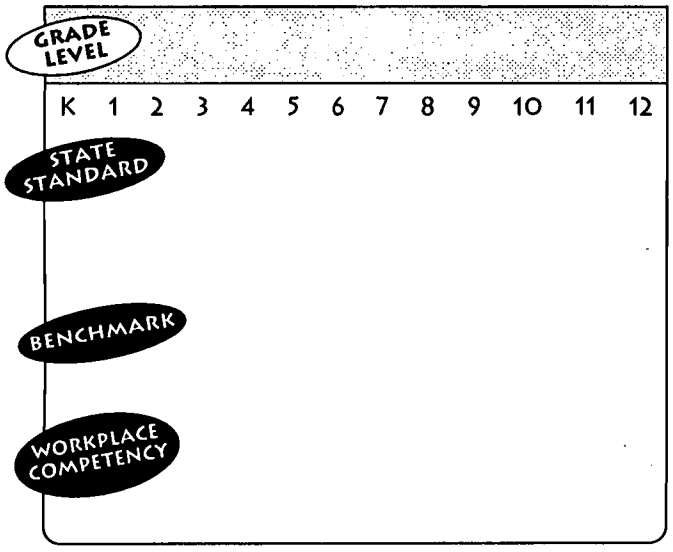
COMMUNICATION SKILLS: WRITING

Evaluate the students on their ability to:

- use proper manuscript form
- write an analysis of the paper defending students choice of manuscript form

EXTENSION

Teams of students consisting of discipline area that use one manuscript form to discuss how the form increases organization and effective writing. Make an oral presentation.



RESOURCES

LEARNING ACTIVITIES

ACADEMIC CONTENT STANDARD

WORKPLACE COMPETENCY

CAREER DEVELOPMENT

COMMUNITY

ASSESSMENTS

ACADEMIC CONTENT STANDARD

WORKPLACE COMPETENCY

EXTENSIONS

Page 36E

CURRICULUM EXTENSIONS

There are other methods and strategies that you may want to investigate. Some of these include:

Applied Academics – students learn general academic principles through hands-on work to solve real-life problems.

Problem Based Learning – "learning that results from the process of working toward the understanding or resolution of a problem" (Barrows and Tamblyn 1980, p. 18). Teachers should teach by appealing to students' natural instincts to explore and create. Teachers who use Problem Based Learning realize that students learn best by doing and by thinking through problems.

Situated Learning - "emphasizes the idea that much of what is learned is specific to the situation in which it is learned" (Lave & Wagner, 1991; Greeno, Smith, & Moore, 1992). Greater importance should be given to the relationship between what is learned in the classroom and what is needed outside the classroom.

Project Based Learning – teaching by placing students in realistic, investigation. Students are placed in realistic, contextualized problem-solving environments. This type of learning also promotes links among subject matter disciplines and presents an expanded view of subject matter.

Using Questioning Techniques to Add Context - Have students try to solve problems by:

- ❑ asking and refining questions
- ❑ debating ideas
- ❑ making predictions
- ❑ designing plans and/or experiments
- ❑ collecting and analyzing data
- ❑ drawing conclusions
- ❑ communicating their ideas and findings to others
- ❑ asking new questions
- ❑ creating a model, report or project of some kind

GUIDELINES FOR BRINGING OUT THE BEST IN ALL OF OUR STUDENTS

BRINGING OUT THE BEST IN ALL OF OUR STUDENTS

Diversity is represented in all of our classrooms. It is critical to provide instructional strategies and a positive learning environment for ALL students. Some students, because of their unique learning style or other factors may need special considerations to reach high standards. These students may include those who are referred to as:

- At-Risk
- Migrant/Bilingual
- Gifted and talented
- Special education
- Disadvantaged
- Other

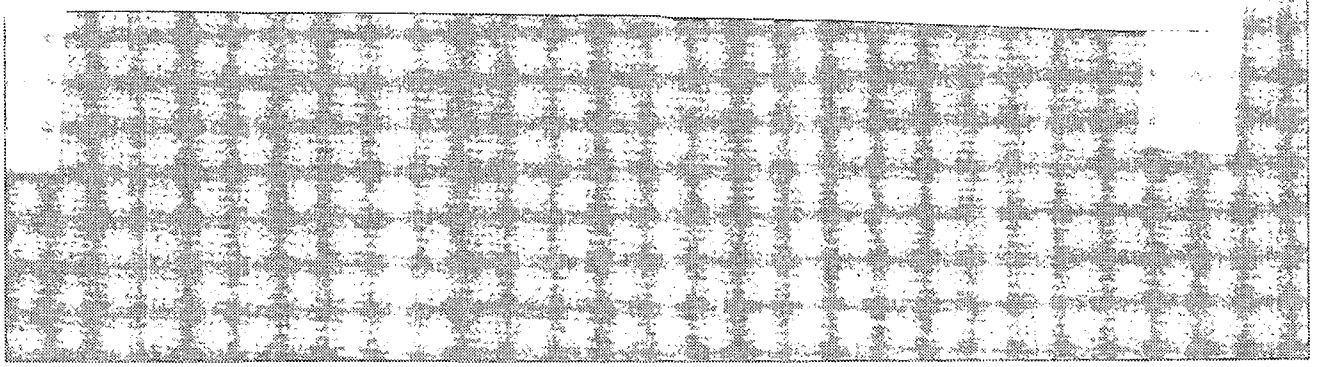
Adaptations should be matched to the individual. There is not "one best strategy" that fits all learners specific group.

Regardless of the classification or title, each individual may have special learning needs that must be addressed. Making necessary adjustments in the instruction and environment can support ALL students in reaching high standards.

✎ Adaptations for Unique Learners

Adaptations for Unique Learners

List a few types of modifications you have made in your classroom for students with special needs.



The following information provides additional suggestions on ways that instruction and assessment practices can be adjusted to meet the needs of ALL learners.

Strategies for Learners with Special Learning Needs

Instruction

- Use a variety of teaching methods that match different learning styles.
- Select materials and equipment that is tailored to unique learners.
- Use different and flexible group strategies for instructional purposes.
- Be flexible in pacing instruction and vary the time allotted for individuals to work.
- Provide a variety of opportunities and environments that allow students to participate.
- Adapt the physical environment to address specific learning needs.
- Provide consistent and clear expectations.
- Use strategies that allow choices and promote self-management and independence.

Assessment: Have a student (or group of students) teach a specific skill to the class.

Assessment

- Use a variety of assessment strategies to measure progress (refer to page 34).
- Allow flexibility in the time and scheduling of the assessment.
- Allow a variety of assessment environments.
- Consider the student's unique learning needs and design the assessment accordingly.
- Use the students preferred mode of language/communication.
- Use realistic and appropriate assessment criteria.

✎ Addressing Diversity in the Classroom

Think about the non-traditional learners in your classroom, school or district. Using the strategies listed above, select three practices. Describe how they can be incorporated into your integrated lesson (page 36) to support learners with unique needs.

1.

2.

3.

Each time a lesson is developed or used the teacher should consider what adaptations are needed for students in the class.

For More Information

- Contact specialists in your building or district

- *"Opportunities for Success"* - provides guidelines for educators as they help special populations of students reach academic standards. It can be ordered by contacting:

  Colorado Department of Education
  Special Education Services Unit
  303/866-6694

INVOLVING COMMUNITY BUSINESSES IN THE CURRICULUM

INVOLVING COMMUNITY BUSINESSES IN THE CURRICULUM

Businesses in your community can be a great resource! Their involvement can enhance student learning and employers can add value to the instruction through innovative ideas to teach content. Sometime educators are hesitant to contact businesses and are not sure what to ask for. There are concerns about the differences between education and business. Business leaders are sometimes critical of education and concerned about their workforce. Unlike business, public educators cannot select a specific group of students to work with. Good work by teachers does not generate additional income like successful business practices. Still, a partnership between business and education can prove to be mutually beneficial. Here are some tips on involving business in the classroom.

Business people are usually happy to be a resource to a classroom teacher. Keep in mind that the culture of industry is very task oriented. So, when asking a businessperson to assist, you need to have a specific idea of what you would like them to do. Here are some examples:

Guest Speakers: Employers can share information about their career and the importance of academics and workplace competencies on the job. For example, parents came to class to discuss their career based on the academic standard being taught.

Content Examples: Businesses can assist in developing examples of how academic content is used and relate these to the curriculum. For example, when reading Hamlet, professionals in the area of conflict resolution and mediation discussed how they would work with Hamlet and his family. They also discussed the qualifications for their jobs and the importance of reading and writing.

Specific Classroom Activities: Business can assist in special events in the classroom. For example, one elementary classroom had "engineering day" related to its math class. Engineers spent the time discussing their profession and the relationship of math. In teams, students received 100 drinking straws and a roll of masking tape. A contest was held to build the highest structure. The engineers consulted with each team on the math principles needed and judged the contest.

Assessment Development: Assessments can be more meaningful when they are connected to a real task. For example, in geography, the teacher worked through the Internet with an oil company to develop an assessment on working with maps.

Visitations: Actually seeing how academics are used in careers provides relevancy to student learning. For example, on a field trip for social studies to the Natural History Museum, students were asked to observe the workers at the museum. On the bus ride back to school students described the jobs, the skills required and the importance of academics in these careers.

Job Shadows: Students spending individual time trying a job is a great way to assess strengths and interests and see the importance of academics. For example, students in an art class had the opportunity to select a career and participate in a job shadow. One student was surprised when she discovered just how much math an interior decorator needed. She changed her schedule for the following year to include an advanced math course.

Internships: Connecting classroom learning with an extended experience in business is a good way for high school and post-secondary students to determine interests and reinforce high level academic skills. For example, one student spent time working for a moving company and was asked to develop and present an improvement plan after spending a week in each department.

Curriculum Development: Business persons can assist in developing integrated curriculum units that respond to academic content standards and provide relevancy. For example, one hospital worked with a middle school and high school to develop a science curriculum that is taught by teachers and hospital personnel in the classroom and on site at the hospital.

Participation in School Activities: Business leaders can contribute to the development of student success through participating in school activities and committees. For example, one company allows leave time for their employees to participate in school activities. Some act as teachers helpers, others are members of the accountability committee, several employees are involved in parent teacher organizations, and others act as judges for school contests.

Homework: Assigning students community homework can increase the connections between school and local businesses. For example, students were asked to find two businesses that used math and report to the class.

Note: Be sure that the business activities you use connect with the academic content standard. Businesses can be in the private or public sector.

THE NATURE OF CHANGE

THE NATURE OF CHANGE

As you decide to do something different in your classroom and with others, it is important to understand the process of change. This allows you to consider where others are in the process as well as evaluate your own feelings and stages along the way...

✎ Making a Change

Identify a personal or professional change you have made.

What were your predominate feelings?

How did this change affect others?

What strategies did you use that assisted in managing this change?

Why People Decide to Change

Deciding to change is an individual act and decision. Change can be "forced" on us by the system or society. However, the decisions to embrace, accept, and support a new way of doing things is ultimately a personal decision. Most of us have had a change "forced" on us without our input, knowledge, or understanding. Usually our response is one of resistance, and, in some cases, sabotage.

Change and the acceptance of new innovation is enhanced by

- ❑ involving individuals in the initial discussion and decision making process regarding the change or innovation;
- ❑ clearly presenting information on the innovation;
- ❑ keeping the change simple — breaking complex innovations into smaller more manageable pieces;
- ❑ allowing each individual affected, the time and the information necessary to accept the change;
- ❑ understanding the process of change;
- ❑ providing proper supports during the change process; and
- ❑ accepting the role of change agent.

Accepting or rejecting change is an individual choice.

The Change Process

Making the decision to accept or reject an innovation is not a mystical event. Each person goes through a process with distinct stages.

- ❑ Each person must go through all stages of the change process
- ❑ An innovation or change may be rejected by an individual at any time
- ❑ Change cannot be rushed, individuals need sufficient time at each step

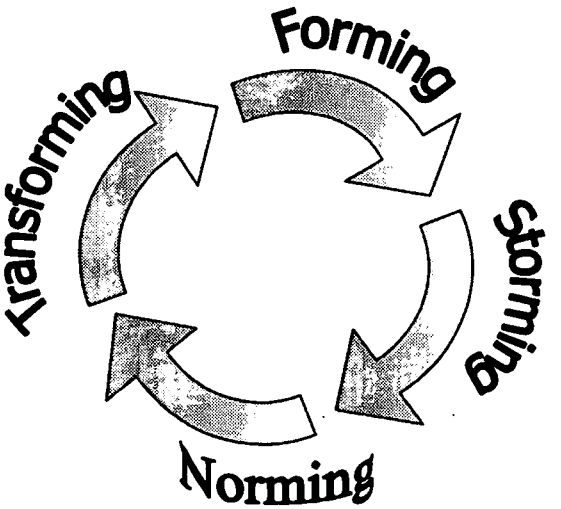
The chart on the next page shows what kinds of support help an individual move effectively through the change process. Offering the right support at the right time helps facilitate the adoption of a new innovation.

The Stages of Change	Change Agent Supports
Stage 1: Awareness The initial stage is becoming aware of the innovation or change.	**Stage 1: Awareness** Role of the Change Agent: "Ad Agent" In this stage the change agent wants to get the individual's attention. Think of yourself as an advertising agent who designs television commercials. Keep the information presented short and positive. Arouse the curiosity of your audience. Resist overwhelming the group or individual with too much information and detail. This stage is passive so don't expect a lot of feedback.
Stage 2: Self-Concern Once aware, the first reaction is what effect will this change have on me? What will be different? How will I fit into the organization? Will my job or role change? Do I have the necessary skills? Where will I find the time? If the individual's concerns are addressed adequately, he/she may pass to the next stage.	**Stage 2: Self-Concern** Role of the Change Agent: "Guide" Once the individual is aware of the innovation it is the role of the change agent to guide him/her through the self-concern stage. Listen and acknowledge the concerns and respond with reassurance and information.
Stage 3: Mental Tryout After the concerns have been addressed, the individual begins to "try the change on for size." Imagining how the change will be implemented is the next step of the process. If the innovation is judged to be feasible then he/she will move to the next stage.	**Stage 3: Mental Tryout** Role of the Change Agent: "Demonstrator" Individuals need to see exactly how the innovation works and how it will best be applied to their specific situation. The change agent must provide demonstrations. Seeing successful implementation will assist in moving persons to the next stage.
Stage 4: Testing The individual is now ready to try the innovation in a real or simulated environment. During this stage a person may require considerable training before he/she is ready to move to the final stage.	**Stage 4: Testing** Role of the Change Agent: "Instructor" After positive experiences at the mental tryout stage, it is time to provide specific and detailed instructions on how the innovation will work. He/she will require systematic training, more detailed information and support from the change agent.
Stage 5: Adoption The testing stage is evaluated, and if the results are positive the individual decides to accept or adopt the change. A person at this stage may require additional assistance and support to fully implement the change.	**Stage 5: Adoption** Role of the Change Agent: "Technical Assistant" Once an individual is an adopter they still may need support in applying the innovation to his/her daily routine. The change agent should be available to provide additional information, support and encouragement. Without this step there is the chance that the change will fall by the wayside.

[Source: *"Change Agentry for Trainers,"* by Diane Dormant and Kathy Beyers, *Inservice Training for Regular Teachers*, edited by Burrello and Kaye; published by Allyn and Bacon, 1981.]

Nature and Cycle of Groups

While accepting change is an individual process, groups can have a great deal of influence in the decisions that each person ultimately makes. Groups, task forces and committees make many decisions and changes in education and human service agencies. It is helpful to understand the nature and cycle of groups. We have all been in very effective and efficient groups that run like clockwork and others that have bogged down or disbanded quickly. We question and have opinions on why a group did not work but rarely do we spend time analyzing the groups that are successful.



All groups go through a developmental cycle. This developmental process is much like human development. There are four distinct stages that each group goes through.

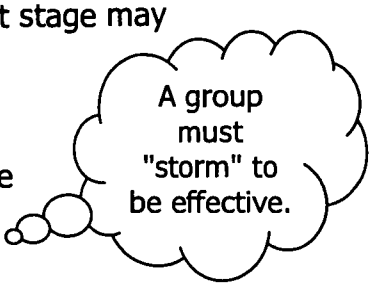
Stage I: Infancy ("Forming")

The forming or the coming together of the group represents the first stage of group development. The characteristics present in this stage are

- ❑ behaviors of the group are polite and superficial;
- ❑ each member is determining similarities and needs, and sizing up other members;
- ❑ each member is attempting to develop safe patterns of interaction;
- ❑ style differences become evident;
- ❑ member roles are questioned; and
- ❑ member commitment and impact is tested

Understanding the cycle of groups helps with productivity.

A great deal of focus and dependency on the leader will be seen at this stage. Based on the similarities of group members and leadership and goals the first stage may either be pleasant or frustrating.



Stage II: Adolescence ("Storming")

This stage is represented by conflict. Storming is a necessary stage because power and decision making are addressed at this level and are critical elements to the ongoing functioning of the group. The following characteristics represent this stage:

- ❑ Common level of expectations and the work are more clearly defined.
- ❑ Group members begin to challenge and assert their power and influence.
- ❑ Leadership may be attacked.
- ❑ Counter-dependence will be exhibited.
- ❑ Emotions are high.
- ❑ The group develops an acceptable order, process and decision making structure.

If a group tries to avoid the turmoil and conflict of this stage, it will return to Stage I and eventually will find itself back in Stage II. Groups who identify and acknowledge this stage will move faster and more effectively to Adulthood.

Stage III: Adulthood ("Norming & Performing")

Surviving the first two stages, the group moves from being a collection of individuals to a cohesive unit. In this stage:

- ❑ Rules are negotiated.
- ❑ The process for accomplishing tasks is identified.
- ❑ Functional relationships are established.
- ❑ Relationships deepen.
- ❑ Leadership issues are resolved.

Through productive work and realization of accomplishments the group now has a unique identity.

Stage IV: Transforming

When the goals have been accomplished the group faces transformation. This process can go one of two ways:

- ❑ Redefinition: The group establishes a new purpose or goal.
- ❑ Disengagement: The group terminates or dies.

Each group must decide which path is best. It is natural for a highly productive group to want to remain together. Staying together without purpose or direction will only serve to sour the past successes and disengage the group in a negative way.

Recycling Through the Process

Each group will proceed through the process at a different rate. The length a group stays in each stage will vary; some groups will fixate in a certain stage and others will move swiftly through the process. All groups must work through each stage to become productive and cohesive. If the group life is long enough, the cycle will be repeated. The recycling experience will lead to deeper insights, relationships, and accomplishments. Groups may also repeat a previous stage when the composition of the goals or activities of the group change. If the group does not learn and develop the needed insights through this process, then members will question their involvement and commitment to the project. Groups must pay attention to the process and learn from the cycle to optimize their productivity.

[Reprinted with permission: *"The Group: A Cycle form Birth to Death,* Richard C. Weber, (1982). pp. 68-71, Reading Book for Human Relations Training.]

✎ Pulling from Experience

Think about a positive group experience. Did this group go through these stages? Describe the elements that contributed to each stage.

Forming:

Storming:

Norming and Performing:

Transforming:

What Role Does Conflict Play in the Change Process?

As stated previously, the second phase of group development is the Adolescence or "Storming" Stage. While recognizing that this is a critical step for groups, conflict is still a difficult concept for us to accept. We are given mixed messages regarding society's acceptance of conflict. War may be acceptable, street fighting and riots are not. We shouldn't hit each other, but boxing is a sporting event. Yelling at one another is unacceptable unless, of course, you are at a football game. Due to the confusion regarding conflict, it is important to examine this concept further.

With conflict being such a central theme in our lives it would seem that we would be comfortable with conflict. The myths have us believing that conflict is negative, should be avoided at all costs, and is only caused by trouble makers and malcontents.

Since change and conflict go hand-in-hand, it is critical to re-examine our perception of conflict. The following principles will assist groups in accepting and understanding conflict.

- ❑ Conflict is an inevitable and important process.
- ❑ Conflict is likely in times of change.
- ❑ Conflict is neither good nor bad.
- ❑ Conflict can lead to constructive results.
- ❑ Conflict can be channeled to maximize creative solutions.
- ❑ Conflict can enhance group innovation.

Conflict can lead to positive and creative results.

How Can Conflict Be Managed?

Conflict, regardless of the benefits, is sometimes difficult to deal with. Conflicting situations may sometimes make us feel, unsettled, uncomfortable, frustrated, and even angry. Groups in conflict may run the risk of disbanding even though this is a normal stage of development.

✎ Managing Conflict

Identify several tips that can help groups manage conflict. Interview a colleague who handles conflict well to get some additional ideas.

My Ideas:

My Colleague's Ideas:

Here are some important principles to remember about conflict.

- ❑ Expect conflict.
- ❑ Acknowledge conflict as a normal, natural process.
- ❑ Talk about conflict openly and honestly.
- ❑ Channel conflict around issues not at individuals.
- ❑ Do not blame group member(s) for creating conflict.
- ❑ Use conflict to fuel creativity and innovation.
- ❑ Develop ground rules to positively support conflict.
- ❑ When it gets too hot, take a break.
- ❑ Resist the urge to disband or quit the group.
- ❑ Use an outside facilitator to reconcile conflict.
- ❑ Celebrate successfully dealing with conflicts.

How Do I Support the Change Process?

Leadership

Leadership is a shared function in meetings, in staff development activities, and in classrooms. Let's begin by looking at your experiences and skills.

✎ Examining Your Experiences and Skills

Think of a time when you had a positive experience with a consultant facilitator or heard a great presentation.

What was the activity?

What were the positive qualities of the consultant, facilitator or presenter that made this a meaningful experience for you?

What qualities do you possess that would provide a constructive experience for your colleagues?

Four Hats of Shared Leadership

Recognizing the "hats" and knowing when and how to change them is shared knowledge within the organization because, when values, roles, and work relationships are clear, decisions about appropriate behavior are easy. In the publication, *The Adaptive School: Developing and Facilitating Collaborative Groups*, the author identifies four "hats" or roles of leadership that are used to assist groups and individuals in moving forward with new ideas and information. It is important to review the different roles you may play as you assist your colleagues with integrating curriculum and contextual learning.

Facilitating: To facilitate means to make easier. A facilitator is one who conducts a meeting for which the purpose is dialogue, shared decision making, planning, or problem solving. The facilitator directs the processes to be used in the meeting and choreographs the energy within the group, maintaining a focus on one content and one process at a time. The facilitator should never be the person with role or knowledge authority.

A Facilitator...

- ❑ remains neutral,
- ❑ clarifies role with group,
- ❑ focuses group energy,
- ❑ keeps group on task,
- ❑ directs processes,
- ❑ encourages everyone to participate,
- ❑ protects participants and ideas from attack,
- ❑ contributes to agenda planning, and
- ❑ elicits clarity regarding meeting follow-up.

10 Worst Fears in the U.S.

1. Public Speaking	6. Sickness
2. Heights	7. Death
3. Insects & Bugs	8. Flying
4. Money Problems	9. Loneliness
5. Deep Water	10. Dogs

Presenting: The role of presenter is most closely associated with staff development work. How content is presented often determines whether or not participants will internalize and act upon the content. An effective presentation requires clarity about outcomes, interactive teaching strategies, and methods to assess the learning that has occurred.

A Presenter...

- ❑ uses his/her natural personality style;
- ❑ understands what stage of change the individual or group is in;
- ❑ is organized;
- ❑ knows the typical questions that may be asked;
- ❑ follows up with participants, providing specific information upon request; and
- ❑ provides examples and resources.

Coaching: Coaches mediate the development of invisible skills: cognitive operations and states of mind. Coaches take a developmental stance regarding the perceptions, mental processes, and decisions of high performing individuals and groups. Coaches are nonjudgmental, employ skills of reflective questioning and inquiry, and help others direct the consciousness to the most useful stimuli. By focusing on the inner thought processes, perceptions, and decision-making processes of the person being coached, the skillful coach mediates the five states of mind, developing resources for present and future actions.

A Coach...

- ❑ is nonjudgmental;
- ❑ accepts each individual's knowledge base;
- ❑ guides a person through the steps (does not "take over");
- ❑ provides follow-up; and
- ❑ spends time processing information.

Consulting: A consultant can be an information specialist or an advocate for content or process. As an **information specialist**, the consultant delivers technical knowledge to another person or group. As a **content advocate**, the consultant encourages the other party to use a certain instructional strategy, adopt a particular curriculum, or purchase a specific brand of computers. As a **process advocate**, the consultant attempts to influence the client's methodology (for example, recommending an open meeting rather than a closed one in order to increase trust in the system). To effectively consult, one must have trust, commonly defined goals, and the client's desired outcomes clearly in mind.

A Consultant...

- ❑ has specialized knowledge or abilities;
- ❑ understands variety of methodologies;
- ❑ has rationale and support for the proposed methods;
- ❑ knows the expected outcomes of his/her clients.

[Adapted with permission: Garmston, R., & Wellman, B., (1996). *The Adaptive School: Developing and Facilitating Collaborative Groups*. Four Hats Press.]

What do Successful Change Agents Know?

Being a change agent can be an exciting, gratifying and professionally uplifting experience. People who are change agents often report a renewed energy and commitment to their profession. Along with all the benefits, being a change agent is sometimes frustrating and lonely. It is important to take care of yourself when you are in this role. Use the following tips when you find yourself in the role of a change agent.

- ❑ Expect change to occur more slowly than you could ever anticipate.
- ❑ Celebrate small and seemingly insignificant movements toward change.
- ❑ Build a support group outside of the individuals you are assisting.
- ❑ Keep up-to-date on information regarding the innovation.
- ❑ Don't expect to have all the answers.
- ❑ Empower others to take the lead and come up with their own solutions.
- ❑ Pat yourself on the back often.
- ❑ Take a break when things get tough; distance clarifies thinking.
- ❑ Remember your role is facilitator not savior.
- ❑ Learn to live with chaos and ambivalence.
- ❑ Don't expect a lot of credit or thanks.
- ❑ Have a sense of humor and use it often.

Remember: Change is a gradual process, not a sudden event.

WHAT DO WE KNOW ABOUT ADULT LEARNERS?

What Do We Know About Adult Learners?

Each mind has its own method.
- Ralph Waldo Emerson

There are some distinct differences between the ways that children learn and the way adults learn. The following is a list of adult learner tendencies that may be helpful as you prepare to train others.

Adults...

- ❑ depend upon themselves for material support and life management. Although they meet many psychological needs through others, they are largely self-directed.
- ❑ perceive themselves as doers and use previous learning to achieve success. Have a broad, rich experience base to relate new learning.
- ❑ learn best when they perceive the outcomes of the learning process as valuable – contributing to their own development, work, success, etc.
- ❑ often have very different ideas about what is important to learn.
- ❑ are very different from each other. Groups are composed of persons of different ages, backgrounds, educational levels, and styles.
- ❑ are more concerned about the effective use of time.
- ❑ are much more likely to reject or explain away new information that contradicts their beliefs.
- ❑ link this readiness to learn more directly to need – needs related to fulfilling their other roles and coping with life changes.
- ❑ are more concerned with the immediate applicability of learning.
- ❑ are more often internally motivated (by the potential for feelings of worth, self-esteem, achievement, etc.).
- ❑ have well-formed expectations which can be negative because they are based upon unpleasant past formal learning experiences.

[Adapted with permission: Love, C., & Gloeckner, G., (1992) *Integrating Basic Skills Into Vocational Teacher Education Curricula: Book 3-Reality of Learners.* Ft. Collins, CO: Colorado State University.]

What's My Learning Style?

Self-Quiz: Check yes or no beside each of the following statements to reflect how you learn as a general rule. Be honest and think in terms of most of the time, not exceptions.

	YES	NO
1. I learn a lot from listening to instructors and other knowledgeable people.	____	____
2. I figure things out best by trial and error.	____	____
3. Books are easy for me to learn from.	____	____
4. Give me a map and I can find my way.	____	____
5. I like to have directions explained to me verbally.	____	____
6. I can often assemble something I just bought without looking at the instructions.	____	____
7. I learn a lot from discussions.	____	____
8. I'd rather watch an expert first and then try a new skill.	____	____
9. The best way for me to learn how something works is to take it apart and put it back together.	____	____
10. I can remember most of what is said in classes and meetings without taking notes.	____	____
11. The classes that I was best at in school involved physical activity and movement.	____	____
12. Diagrams and drawings help me understand new concepts.	____	____

[Adapted with Permission: Steinbach, B., (1993). The Adult Learner: Strategies for Success. Crisp Publications, Inc.]

Results

While it is not a scientific assessment, the self-quiz tells you something about how you learn best.

- ❑ A "yes" to questions 1, 5, 7, and 10 indicates that you learn by hearing it first: you are a "good listener" or strong auditory learner.
- ❑ A "yes" to questions 3, 4, 8, and 12 indicates that you learn by reading, watching and studying diagrams: you are a strong visual learner.
- ❑ A "yes" to questions 2, 6, 9, and 11 indicates that you learn by doing things: you are a strong kinesthetic learner.

While a short quiz like this cannot diagnose accurately how you learn, it can provide insights into how you see yourself and the learning process. This is especially helpful in understanding how you match up with a particular learning task or instructor. For example, if you are a strong kinesthetic learner, you may be frustrated with lectures where you are expected to sit and listen.

✎ Personal Learning Style

According to this inventory I learn best through. . . .

This agrees or disagrees with my experience in the following ways.

The biggest difference between how I learn as an adult and how children learn is . .

TEACHER EXTERNSHIPS: THINGS TO CONSIDER

TEACHER EXTERNSHIPS: THINGS TO CONSIDER...

It is important for educators to have an experience in business prior to participating in "Bringing Standards to Life." The following information will give you some ideas on how to develop externship experiences.

What is an externship?

An educator externship (sometimes referred to as an internship), is "traditionally defined as a work site experience where participants complete a series of activities, and, after a period of reflection, produce a demonstrable product that can be used to improve their teaching" (Sargent & Ettinger, 1998).

Why should I participate?

Many educators have had little or no recent exposure to the changing workplace. To demonstrate the value of learning beyond high school, it is important that educators be familiar with the various workplace settings where students will function as citizens, family members, and workers. Externships provide a professional development component that can help facilitate authentic learning experiences for students.

What are the benefits of participating in an externship?

Teachers benefit from

- ❑ increased awareness of the changing workplace competencies, skills, and attitudes that students will need to be successful;
- ❑ an opportunity to gather information to aid in the design of curriculum;
- ❑ enhanced subject expertise;
- ❑ application of classroom subject matter to real world applications;
- ❑ participation in a vital professional development opportunity;
- ❑ establishing links with employers;
- ❑ ability to bring knowledge of the business world into the classroom;
- ❑ ability to provide an exciting learning environment in which students understand the importance of strong academics, how they apply to the world, and the career opportunities available to them; and
- ❑ academic credit.

Business mentors will have the opportunity to

- ❑ make a positive impact on classroom curriculum and instructional practices;
- ❑ aid in preparing students with the skills they need to enter the work force;
- ❑ gain a realistic perspective of teaching and learning in schools today; and
- ❑ develop personal connections with educators and students.

Students will have an opportunity to

- ❑ understand and experience how what they learn in the classroom connects to real life applications;
- ❑ participate in an active learning environment; and
- ❑ identify the skills and competencies required to be successful citizens, family members, and workers.

"My business externship really opened my eyes to how important it is to connect academics with the real world. This was one of the most beneficial staff development experiences I have ever had."
- Science Educator

Reprinted with Permission: Externships: Employers and Educators in Partnership, A Cookbook for Success: By Darla Bennett

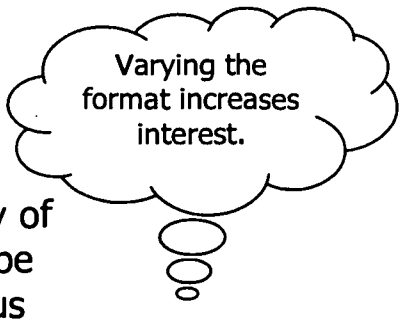
How can externship experiences be developed prior to training?

There are several ways teachers interested in contextual learning can participate in a business externship.

- ❑ Select teachers who have already had a business experience
- ❑ Ask teachers to set up an externship in a community business that matches their academic area
- ❑ See if the regional center, partnership or school district already has an externship program for teachers
- ❑ Develop and conduct an externship seminar in your community prior to training teachers on this model

STAFF DEVELOPMENT TECHNIQUES

Staff Development Techniques



The information in this Workbook can be used in a variety of ways. Individuals can use this independently or this can be used in a training situation. The following provides various training techniques that you may want to use in order to deliver this material in an interesting and memorable way.

Fishbowl – Participants will participate in discussion and be able to report the results of their question.

- ❑ Place half as many chairs as participants in a circle.
- ❑ Ask for volunteers to take part in a discussion. Have them sit in the chairs.
- ❑ The rest of the participants need to stand behind the chairs around the circle.
- ❑ Introduce the topic for discussion to the participants in the chairs, have the other participants quietly choose a card with a question on it. Keep track of the answer to their question mentally or on a piece of scratch paper.
- ❑ Have participants discuss first topic for 5-10 minutes.
- ❑ Have participants standing behind the chairs read their questions and give results.
- ❑ Have the groups switch places and repeat procedures with new discussion questions and content cards.
- ❑ After the discussion, debrief the activity.

Jigsaw – A cooperative learning strategy which is useful when covering and reviewing material. Participants work in small learning groups, discuss with "expert" groups, and teach within the home group.

- ❑ Form groups of four or five.
- ❑ Provide participants with different pieces of information on a topic.
- ❑ Participants read their information and write ideas or questions about the information.
- ❑ Regroup participants into "expert" groups where they share their insights and discuss with others using the same material.
- ❑ Participants return to original group and teach their "expert" material.

Three-Step Interview – This process works best in-groups of four, but can be adapted for larger groups.

- ❑ Participants are in pairs; one is the interviewer, the other the interviewee.
- ❑ Participants reverse roles.
- ❑ Participants do a Round Robin, each one sharing with the team what they have learned in the interview.

Six Step Interview –
A interviews B while C interviews D and then the participants switch roles so the interviewer in each pair is interviewed. Next the participants turn to a new partner and each share what they have learned. In the final steps, new partners interview each other.

Numbered Heads Together –

- ❑ Participants number off.
- ❑ Teacher announces a question and a time limit.
- ❑ Participants put their heads together.
- ❑ Teacher calls a number, calls on a participant with that number and recognizes the answer.

Using a variety of training techniques will address different learning styles.

Roundtable – This can be used with any subject matter, is most often used at the beginning of a lesson to provide a content related teambuilding activity.

- ❑ Teacher asks a question.
- ❑ Participants make a list on a piece of paper, each writing one answer and then passing the paper to the person next to them. The paper literally goes around the table.

Round Robin – This is the oral counterpart of Roundtable; participants simply take a turn stating answers without recording them.

Group Discussion – This is the simplest of all cooperative learning structures where participants sit in a group and discuss the topic. The following is a list of **Simultaneous Sharing** that allows for more participation among your participants.

Teams Consult – Ask the team to share their best answer with the team next to them.

Blackboard Share – One participant from each group goes to the board or chart paper and all teams can simultaneously post their best answers.

Team Notebooks – Each participant records their ideas in a team notebook to be looked at by the teacher and/or other teams.

People learn best when they teach others.

Class Notebook – Each team records their ideas or product on a sheet of three ring binder paper. The notebook is available for other teams to use.

Carbon Sharing – As teams record their answer, they are producing two or more copies. These copies are given to other teams to examine and/or comment on.

Stand-Up and Share – Teams discuss an issue until each individual on the team feels that he or she could share an important idea with the whole group, at which time they stand up. The teacher asks one participant to share his or her ideas. All participants with a similar idea sit down.

Roam the Room – At a signal, participants move around the room as individuals view the products of other teams or individuals. When the signal to return is given they do a Round Robin to share what they have learned.

Gallery Tour – Participants move about the room as a team to look over, discuss and give feedback on the products of other teams.

Carousel – This process allows each participant to share with several teams. Participant one in each team remains seated while his/her teammates rotate to occupy the seats of first team seated clockwise. Participant one then shares. In step two the teams rotate again so participant one has a second opportunity to share. Several rotations may occur.

WHAT WORKS? 1999
Colorado High School Senior Survey Results

Initial Results *
May 1999

*** Additional analysis will be completed this summer**

✤ *What Works?* Acknowledgements

Sponsored by:

School-to-Career Regional Centers on behalf of local partnerships and school districts.

Region 1 – Connie Long
Aims CC Corporate Ed. Center
5590 11th Street
Greeley, CO 80634
(970) 330-8008 X6740
(970) 339-6564 (fax)
connie_long@ceo.cudenver.edu

Region 2 – Alice Potter
School-to-Career Resource Center
Community College of Denver
1391 North Speer Blvd., Suite 400
Denver, CO 80204
(303) 620-4440
(303) 534-2543 (fax)
alice_potter@ceo.cudenver.edu

Region 3 – Ed Bowen
Pikes Peak Community College
5675 S. Academy Blvd., Box 38
Colorado Springs, CO 80906
(719) 540-7357
(719) 540-7059 (fax)
stc@ppcc.cccoes.edu

Region 4 – Julie Sumpter
Otero Junior College
1802 Colorado Avenue
La Junta, CO 81050
(719) 384-6835
(719) 384-6936 (fax)
julie.sumpter@ojc.cccoes.edu

Region 5 – Barbara Milicevic
60 South Cactus Drive, Suite 1
Cortez, CO 81321
(970) 565-7536
(970) 565-7499 (fax)
milicevic@pcc.cccoes.edu

Region 6 – Darla Bennett
Roaring Fork Voc.-Tech. School
504-A 27th Street
Glenwood Springs, CO 81601
(970) 947-0851
(970) 947-0862 (fax)
darla_bennett@ceo.cudenver.edu

Survey Development and Analysis

Susan McAlonan, Ph.D.
Colorado Dept. of Education
201 East Colfax Avenue
Denver, CO 80203
303-866-6715
(303) 866-6647 (fax)
susan_mcalonan@ceo.cudenver.edu

Steve Kennedy, MSW
Deputy Director
Colo. School-to-Career Partnership
1580 Logan Street
Denver, CO 80203
303-894-2060
steve_kennedy@ceo.cudenver.edu

Nanci Avitable, Ph.D.
Research Consultant
Nanci_avitable@ceo.cudenver.ed

Report Design

Kelli Roark, BS
Colorado Dept. of Education
201 East Colfax Avenue
Denver, CO 80203
303-866-6974
(303) 866-6647 (fax)
kelli_roark@ceo.cudenver.edu

Heather Hotchkiss, MSW
Colorado Dept. of Education
201 East Colfax Avenue
Denver, CO 80203
303-866-6622
(303) 866-6647 (fax)
hotchkiss_h@cde.state.co.us

Data Entry:

Kevin Pirch, Former Staff
Colo. School-to-Career Partnership

Special Thanks to:
Colorado Department of Labor
Bryon Coe
Durwood "Sonny" Risley

Design Team:

Alice Potter, MA
School-to-Career Regional Center
Community College of Denver
1391 North Speer Blvd., Suite 400
Denver, CO 80204
(303) 620-4440
(303) 534-2543 (fax)
alice_potter@ceo.cudenver.edu

Sandra Starnaman, Ph.D.
Colorado Mountain College
210 North F Street
Salida, CO 81201
(719) 539-3905
starnaman@coloradomtn.edu

Julie Sumpter, MA
School-to-Career Regional Center
Otero Junior College
1802 Colorado Avenue
La Junta, CO 81050
(719) 384-6835
(719) 384-6936 (fax)
julie.sumpter@ojc.cccoes.edu

Bob Keller, Ph.D.
McREL
2550 South Parker Road, Ste 500
Aurora, CO 80014
(303) 337-0990

Sherrie Schneider, MA
Aims Community College
5590 11th Street
Greeley, CO 80634
(970) 330-8008

Laurie Maxson, MA
El Paso School District 11
1115 North El Paso Street
Colorado Springs, CO 80903
(719) 477-6002

Stephanie Cunningham, Ph.D.
University of Colorado at Denver

Kay Meyer, MA
Former Staff
School-to-Career Partnership

Samantha O'Neill
Project Director
Colorado Resource Mapping

Expert Panel & Pilot Sites

Mary Stecklein, MA
Colorado Community and Occupational Education System
1391 North Speer Blvd., Suite 600
Denver, CO 80204
(303) 620-4000
(303) 825-4295 (fax)
sb_mary@cccs.cccoes.edu

Jim Weiland
Vocational Rehabilitation
Human Svcs. Building, Suite 290
900 Jefferson County Parkway
Golden, CO 80401
(303) 271-4888
(303) 271-4887 (fax)

Georgia Grantham, Ph.D.
Salida STC Partnership
P.O. Box 70
Salida, CO 81201
(719) 539-6145
(719) 539-6220 (fax)
gagranth@adams.edu

Nancy Wear
Loveland STC Partnership
535 North Douglas Avenue
Loveland, CO 80537
(970) 669-3940

Dean Blair
Mesa STC Partnership
438 Manzana Drive
Grand Junction, CO 81650
(970) 858-3624
(970) 858-9661 (fax)

Linda Harrison
Jefferson County STC Partnership
13300 West 2nd Place
Lakewood, CO 80228
(303) 982-8624
(303) 982-8622 (fax)
lharriso@jeffco.k12.co.us

Trish Cole
Colo. Dept. of Labor & Employment
1515 Arapahoe St., Tower 2, #400
Denver, CO 80202
(303) 620-4209
(303) 620-4257 (fax)

Pilot Site:

Cherry Creek School District
Lisa Kuntz
(303) 486-4540

Pilot Site:

Denver Public Schools
Carol Johnson
(303) 764-3893

✤ Purpose of the Colorado High School Senior Survey

Improving **student achievement** and providing experiences to young adults so they can make important college, career and life decisions are important aspects of today's education. Based on the requests from local school districts and communities the *1999 What Works? Colorado High School Senior Survey* was developed.

Seniors from 132 High Schools participated in this study.

Two important questions were posed in this study.

- What **motivates** today's students in school?
- How **prepared** are these students for their future?

Student respondents were in high schools ranging from a population of approximately 50 to 3,500 students.

The following report provides the first reflections from **8,663** high school seniors regarding their school experiences and plans for the future.

91 of Colorado's school districts participated in this study.

✤ Student Motivation

Educators have long struggled to find the "formula" or best model to maximize student abilities and potential. From research during the seventies and eighties, it is now generally accepted that student motivation is one factor that has a positive impact on achievement.

High school seniors are motivated by classroom instruction that includes . . .

A chance to apply active, hands-on lessons (74%).

Solving real world problems (61%).

" . . .there weren't a lot of boring lectures, but rather hands-on activities and lessons that actually apply."

High school students are motivated by teachers who . .

Are knowledgeable (78%) and enthusiastic (80%) about the subject.

Use humor related to the subject (88%).

Students are motivated to learn when they . .

Are interested in the subject (96%).

Like the teacher (79%).

See how the class relates to their career interests (62%).

"I liked US History. The teacher was awesome and it was very relevant to my career plans."

However . .

65% of the students are bored in school half or more of the time.

Few consider dropping out.

Only 20% find lectures motivational.

"I thought about dropping out but decided I would rather be bored than stupid"

✤ Career Development and Plans for the Future

Through the implementation of School-to-Career across Colorado, more students have the opportunity to access a broad array of career development experiences. Therefore, it is now possible to study the impact of these on motivation and future plans.

Students with More Extensive Career Experiences

Comparisons were made between students who did and did not have one or more of the following experiences:

- job shadowing,
- a job connected to a class or school,
- a written academic/career plan,
- participation in a mentorship program,
- working towards certification,
- participation in an internship or apprenticeship program.

"I found I liked Physics because it applied to the career I want to pursue, becoming a pilot"

About one fifth (1,654) of the sample did not have any of these experiences. The demographic information on ethnicity, gender, grades and participation in school activities did not differ between those with these career experiences and those without.

Students with Career Experiences are More Likely to . . .

Go on to post-secondary education (54%) with three or more career experiences compared to 43% without these career experiences.

Select a college based on a career area of interest (40%) with two ore more career experiences as compared to 28% without.

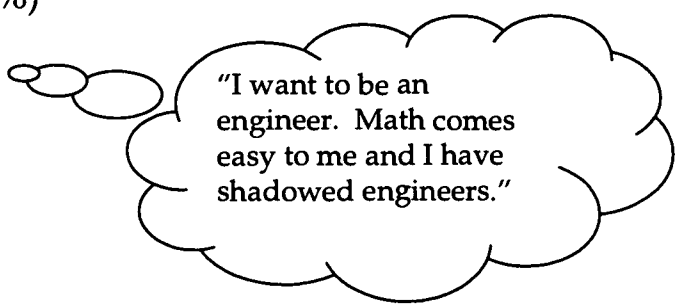
Select a college major – 38 % with two career experiences, 43% with 3 or more as compared to 28% without.

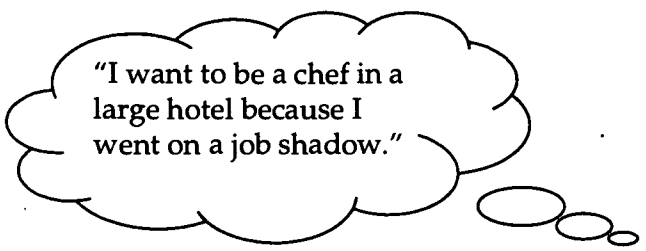
"After my internship at the Molly Brown House and a great history teacher, I am going to major in anthropology and history specializing in museum studies."

Students with Career Experiences . . .

- Know their career interests and abilities when they have had two or more career experiences (51%) as compared to 36% without.

- Are excited about their future when they have had
  - more than three career experiences (Over 75%)
  - two or three experiences (50%)
  - no experience (43%).

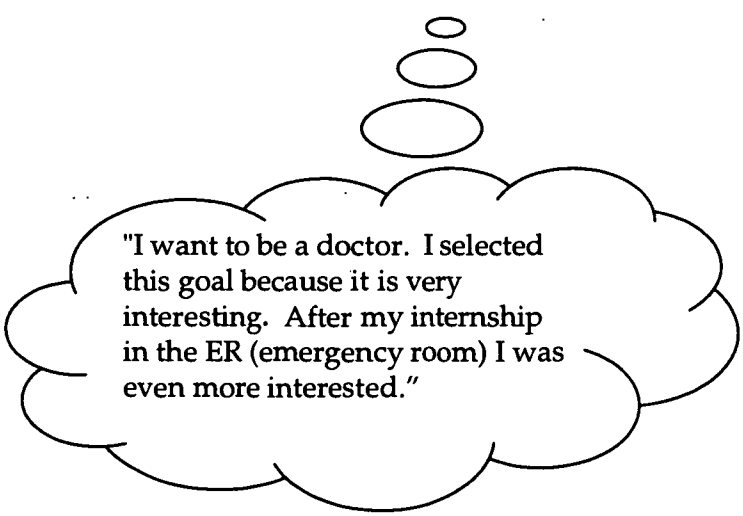




- Students with three or more career experiences are 11% less likely to be bored in school than those without.

- Only 111 students reported that they were never bored in school.

- 42% of students with 2 or more career experiences reported they are never bored or only bored once in a while as compared to 29% without.



Sample

Over half the school districts in Colorado (52%) participated in this study. Respondents included rural, urban and suburban high schools and districts from every region of the state. The size of the participating K-12 school districts had a student population that ranged from 100 to those with over 65,000. There were 132 high schools that responded. The 8,663 respondents came from high schools ranging from a population of approximately 50 to 3,500 students.

Student Respondents

Ninety five percent of the sample was 17 and 18 years old with equal male and female representation. Seventy two percent were Caucasian. Sixty five percent reported B's or better with 21% having mostly A's.

	Count	Percent
Number of surveys Completed:	8663	100.0
AGE		
16	110	1.4
17	4249	52.9
18	3393	42.2
19	260	3.2
20	22	.3
21	3	.0
Total	**8037**	**100.0**
GENDER		
Male	4069	49.3
Female	4184	50.7
Total	**8253**	**100.0**
ETHNICITY		
White	6059	71.6
Hispanic	1302	15.4
Black	392	4.6
Native American	83	1.0
Asian	242	2.9
Other	388	4.6
Total	**8466**	**100.0**
GRADES		
Mostly As	1789	21.0
Half As & Bs	2221	26.0
Mostly Bs	1530	17.9
Half Bs & Cs	1776	20.8
Mostly Cs	766	9.0
Half Cs & Ds	378	4.4
Mostly Ds or below	70	.8
Total	**8530**	**100.0**

STATE DEMOGRAPHICS FOR ALL HIGH SCHOOL SENIORS

Gender	Count	Percent
Male	20,174	50.4%
Female	19,902	49.6%
Ethnicity		
American Indian	355	1%
Asian	1222	3%
Black	1846	4.6%
Hispanic	5534	13.8%
White	31,119	77.6%
Total	40,076	100%

High School Experiences

The respondents were asked what types of additional experiences they had participated in during high school. Results show that 98% of the respondents participated in one or more of the listed activities.

"I ended up liking theater class. I didn't think I could act but I learned that acting is not all there is to a career in the theater."

During high school, have you . . .

	Count	% of Cases	% Responding
Taken advanced placement Classes	3923	45.3	46.3
Participated in varsity or intramural athletics	4726	54.6	55.8
Had a job connected to school or a class	1902	22.0	22.5
Had a job related to a career interest area	2467	28.5	29.1
Had a job not connected to School	6095	70.4	71.9
Been involved in student Government	1427	16.5	16.8
Participated in theatre or musical performances	3045	35.1	35.9
Worked as volunteer or in community service	5024	58.0	59.3
Participated in clubs	4371	50.5	51.6
Number responding	8472	97.8	100.0

"I want to be in law, government or politics because of my internship and involvement in student council."

More High School Experiences

The majority of the participating seniors were bored in class half or more of the time. However, students rarely skipped class. Over half responded that either never or only once in a while worked for a better grade.

"My desire to graduate overcame my boredom and distractions."

During High School, How Often Did You . . .

	Never	Once in Awhile	Half of the time	Most of the time	Total
Do extra work for a better grade?					
Count	376	4485	2049	1699	8609
%	4.4	52.1	23.8	19.7	100.0
Receive help when requested?					
Count	253	2175	2230	3936	8594
%	2.9	25.3	25.9	45.8	100.0
Feel bored in class?					
Count	111	2856	3332	2302	8601
%	1.3	33.2	38.7	26.8	100.0
Cut or skip classes?					
Count	2661	5004	631	298	8594
%	31.0	58.2	7.3	3.5	100.0
Think about dropping out?					
Count	7122	1097	211	161	8591
%	82.9	12.8	2.5	1.9	100.0

Motivation

There are many things that help motivate students to learn. The Survey looked at motivation from three perspectives, personal influence, the role of the teacher and classroom instruction.

"I hated math but I ended liking algebra because my teacher applied it to real life."

I am motivated to learn . . .

	Count	%
When I . . .		
Am interested in the subject	8215	95.9
Like teacher	6753	78.8
Can seek help	2654	31.0
See the relationship to real world	4766	55.6
See how the class relates to my career interests	5300	61.9
Understand the content's importance	4184	48.8
When the Teacher . . .		
Is knowledgeable about the subject	6598	77.6
Takes a personal interest in me	5265	61.9
Sets high achievement standards	3611	42.5
Shows concern about my education	5632	66.2
Shows enthusiasm about the subject	6802	80.0
Encourages everyone to participate	4816	56.6
Remembers the student's perspective	5122	60.2
Uses humor (related to the subject)	7492	88.1

"I liked the class because the teacher was enthusiastic about the subject, joked around with the students and encouraged everyone to participate."

Motivation

There are many things that help motivate students to learn. The Survey looked at motivation from three perspectives, personal influence, the role of the teacher and classroom instruction.

"I hated math but I ended liking algebra because my teacher applied it to real life."

I am motivated to learn . . .

	Count	%
When I . . .		
Am interested in the subject	8215	95.9
Like teacher	6753	78.8
Can seek help	2654	31.0
See the relationship to real world	4766	55.6
See how the class relates to my career interests	5300	61.9
Understand the content's importance	4184	48.8
When the Teacher . . .		
Is knowledgeable about the subject	6598	77.6
Takes a personal interest in me	5265	61.9
Sets high achievement standards	3611	42.5
Shows concern about my education	5632	66.2
Shows enthusiasm about the subject	6802	80.0
Encourages everyone to participate	4816	56.6
Remembers the student's perspective	5122	60.2
Uses humor (related to the subject)	7492	88.1

"I liked the class because the teacher was enthusiastic about the subject, joked around with the students and encouraged everyone to participate."

The Career Information or Experiences in High School Helped Me . . .

	Count	%
Decide to continue education after graduation	4302	52.2
Select a school based on career goals	3267	39.7
Identify a college major	3187	38.7
Decide to go directly to work after graduation	883	10.7
Know my career interests and strengths	4166	50.6
Identify a job based on career interests	2748	33.4
Or		
Information or experience in high school was not available	938	11.4
Career information or experiences didn't help	1100	13.4
Total responding	8361	100.0

"I plan to be a pharmaceutical sales representative because I went on a job shadow."

✤ Career Development

Ninety percent of the seniors who responded indicated that they had learned about jobs in a class and 85% had learned how subjects are used outside the classroom. About two-thirds had competed a project in which they learned about jobs and had done college planning with a counselor. Half indicated that they would like to do an internship or an apprenticeship.

"I am interested in art. My counselor told me about careers in commercial art."

Have You Ever . . .

		Not Done	Done	Would Like To Do	Total
Learned about jobs in class	Count	235	7751	626	8612
	%	2.7	90.0	7.3	100.0
Learned how subjects are used outside of class	Count	424	7291	897	8612
	%	4.9	84.7	10.4	100.0
Toured a workplace	Count	962	4923	2727	8612
	%	11.2	57.2	31.7	100.0
Job-shadowed	Count	1215	4122	3275	8612
	%	14.1	47.9	38.0	100.0
Taken a career interest inventory	Count	1714	4176	2722	8612
	%	19.9	48.5	31.6	100.0
Done a project in which you learned about jobs	Count	1332	5888	1392	8612
	%	15.5	68.4	16.2	100.0
Gone to career fair	Count	1452	4877	2283	8612
	%	16.9	56.6	26.5	100.0
Done college planning with a counselor	Count	1042	5959	1611	8612
	%	12.1	69.2	18.7	100.0
Done career planning with a counselor	Count	1979	3937	2696	8612
	%	23.0	45.7	31.3	100.0
Developed an academic or career plan	Count	2119	3633	2860	8612
	%	24.6	42.2	33.2	100.0
Met with a mentor	Count	2066	3600	2946	8612
	%	24.0	41.8	34.2	100.0
Worked toward certification	Count	2613	2614	3385	8612
	%	30.3	30.4	39.3	100.0
Done an internship or apprenticeship	Count	2343	1982	4287	8612
	%	27.2	23.0	49.8	100.0

Differences Between Students with Career Experiences and Those without

"I have worked on a farm for the last two years and enjoy it more than anything else."

Comparisons were made between students who did and did not have one or more of the following experiences: job shadowing; a job connected to a class or school, a written academic/career plan, participation in a mentorship program; working towards certification; participation in an internship or apprenticeship program.

About one fifth (1,654) of the sample did not have any of these experiences. The demographic information on ethnicity, gender, grades and participation in school activities did not differ between those with these career experiences and those without. Of those who had one or more of these career experiences, the students were less inclined to be bored in class. These students were more inclined to:

- pursue post-secondary education
- select a college/school based on their career goals
- select a college major
- know their career interests and strengths
- be less bored in school

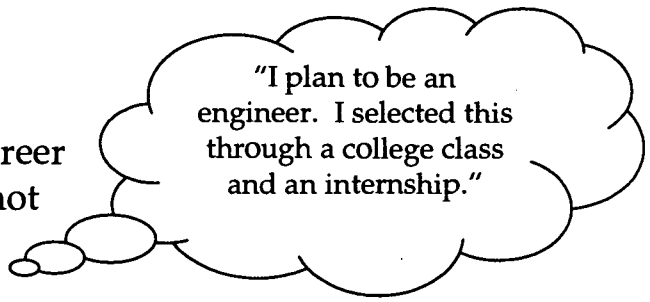
"I selected dentistry because I like science and math. After my internship I feel I made the right choice."

Additionally, students with these career experiences are more excited about their future and more comfortable with their career plan than their counterparts with out these experiences.

"I have decided on a career with the airlines through my job shadowing and I also learned a lot from the career fair."

Comparisons Between Students With Selected Career Experiences and Those Without

The following tables provide the data on students with one or more of the selected career experiences compared with those who did not have these experiences.



Students with one or more career experiences are more likely to continue their education after high school.

Number of career experiences	0	1	2	3	4	5	6
Number going on to post secondary education	709	977	911	727	483	376	119
Percent	43%	48%	49%	54%	56%	54%	66%

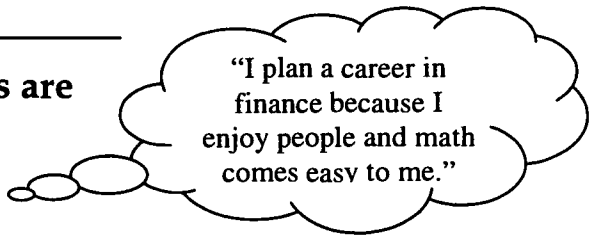
Students with one or more career experiences are more likely to select a college/school based on career goals.

Number of career experiences	0	1	2	3	4	5	6
Number selecting a school based on career	463	668	746	598	399	305	88
Percent	28%	33%	40%	44%	46%	44%	49%

Students with one or more career experiences are more likely to identify a college major.

Number of career experiences	0	1	2	3	4	5	6
Number selecting a major	454	661	713	581	368	318	92
Percent	27%	32%	38%	43%	42%	46%	51%

Students with one or more career experiences are more excited about the future.



Number of career experiences	0	1	2	3	4	5	6
Number excited about the future	713	1054	1093	857	597	472	136
Percent	43%	51%	59%	63%	69%	68%	76%

Students with one or more career experiences are more likely to know their career interests and strengths.

Number of career experiences	0	1	2	3	4	5	6
Number who know strengths/interests	589	905	959	763	490	362	98
Percent	36%	44%	51%	57%	57%	52%	54%

Students with one or more career experiences are more comfortable with a career plan.

Number of career experiences	0	1	2	3	4	5	6
Number comfortable with career plan	804	1137	1035	817	505	408	109
Percent	49%	56%	56%	61%	58%	59%	61%

"After my internship at Big Brothers Sisters, I decided I wanted to make this my career."

Students with one or more career Experiences are less unclear about their future.

Number of career experiences	0	1	2	3	4	5	6
Number unclear about their future	393	380	336	190	108	83	18
Percent	24%	19%	18%	14%	13%	12%	10%

Students with three or more career experiences are less likely to be bored in school.

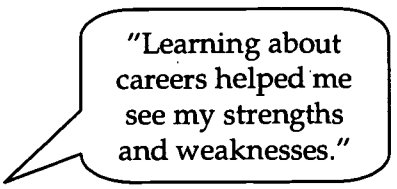
Number of career experiences	0	1	2	3	4	5	6
Number never bored or only bored once in a while	478	697	652	506	320	239	75
Percent	29%	34%	42%	38%	37%	35%	42%

Number of career experiences	0	1	2	3	4	5	6
Number who feel bored in class half or most of the time	1162	1345	1200	837	541	445	104
Percent	72%	65%	65%	67%	63%	65%	58%

"I thought about dropping out because I was bored with school and wasn't really serious."

Plans for the Future

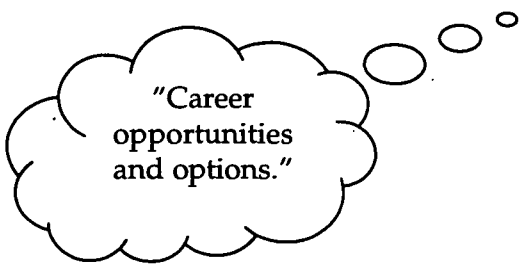
Over half of the senior respondents are excited about their future and are comfortable with their career plans. Almost all of these youngsters are taking numerous steps to facilitate their future plans. Most students are about to and/or plan to finish high school, read about a career, take the ACT or SAT, learn about schools or colleges offering a major of interest and gain experience in a paid job.

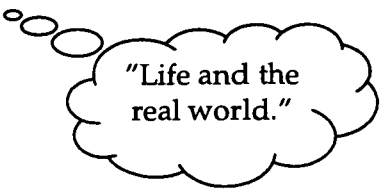


Optimism About the Future

	Count	%
Am excited about future	4922	60.2
Am comfortable with career plan	4815	58.9
Am concerned, unclear about future direction	1508	18.4
Don't have enough information	709	8.7
Total responding	8374	100.0

The survey asked, *I would feel better if I knew more about . . .*

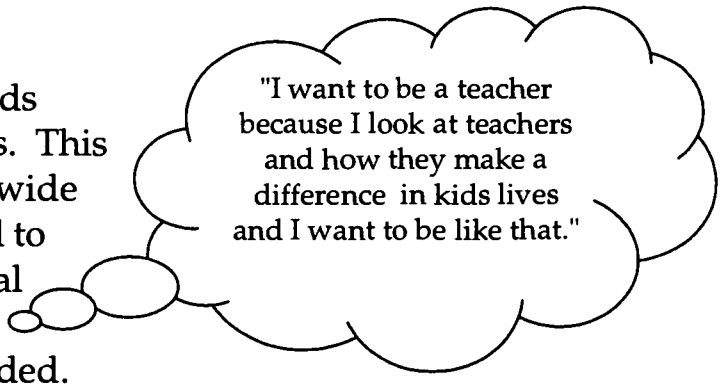




Steps for the Future

	Done, Doing, Or Plan To Do	Not Necessary	Have Not Considered	Total
Finish school & graduate				
Count	8424	10	17	8451
%	99.7	.1	.2	100.0
Do an internship				
Count	4866	1154	1889	7909
%	61.5	14.6	23.9	100.0
Read about a career				
Count	6857	751	515	8123
%	84.4	9.2	6.3	100.0
Save money				
Count	8072	125	122	8319
%	97.0	1.5	1.5	100.0
Take classes				
Count	7401	340	383	8124
%	91.1	4.2	4.7	100.0
Take ACT or SAT				
Count	7446	419	359	8224
%	90.5	5.1	4.4	100.0
Learn about schools or colleges				
Count	7659	304	224	8187
%	93.6	3.7	2.7	100.0
Explore schools offering major of interest				
Count	7338	419	379	8136
%	90.2	5.1	4.7	100.0
Apply to specialized school				
Count	3310	2574	2000	7884
%	42.0	32.6	25.4	100.0
Apply to 2-yr college				
Count	2695	2687	2321	7703
%	35.0	34.9	30.1	100.0
Apply to 4-yr college				
Count	6489	786	772	8047
%	80.6	9.8	9.6	100.0
Apply for scholarships				
Count	6576	732	773	8081
%	81.4	9.1	9.6	100.0
Apply for apprenticeship				
Count	2730	2167	2750	7647
%	35.7	28.3	36.0	100.0
Enlist in military				
Count	941	3502	3358	7801
%	12.1	44.9	43.0	100.0
Set up job interviews				
Count	5296	1347	1295	7938
%	66.7	17.0	16.3	100.0
Gain experience in paid job				
Count	7235	359	456	8050
%	89.9	4.5	5.7	100.0
Get skill certification				
Count	4740	1109	1886	7735
%	61.3	14.3	24.4	100.0

Future Data Analysis



The size and depth of the database lends itself to multitude of different analyses. This report provides the basic level of statewide analysis. Further evaluation is needed to determine the underlining motivational factors. Additionally, several of the questions on the survey were open-ended. These questions focused on motivation, career goals and school improvement. A plethora of qualitative data has been generated. The analysis of this data will be conducted this summer. A more complete look at the statewide data will be published this fall.

Survey Design Process

This Survey was designed through a multi-level process. A design team was convened. Representatives included educators from the state, regional and local levels and educational and university researchers. The items included on the instrument were designed to answer two major questions: *What motivates students in school?* and *How prepared are students for their future?* After a review of the literature and much discussion, a draft form of the Survey was reviewed by a panel of experts including, regional and local coordinators and the design team. Additionally, the instrument was piloted through two focus groups of high school seniors.

BRINGING STANDARDS TO LIFE
REFERENCES

REFERENCES

Anderson, W., Beckett, C., Chitwood, S., & Hayden, D., (1986). *NEXT STEPS publication,* Parent Educational Advocacy Training Center, Virginia.)

Anderson, R., Reder, L., Simon, H. (May 1996). *Situated Learning and Education,* Educational Researcher.

Barrows and Tamblyn (1980). Problem-Based Learning an Approach to Medical Education. Springer Publishing Co., NY, p. 18

Bennett, D. (1999). *Teachers Learning in the Community: A Field Guide*, Region 6 School-to-Career Resource Center.

Blumenfeld, P., Soloway, E., Marx, R., Krajcik, J., Guzdial, M., & Palincsar, A., (1991). *Learning and Mathematics: Project-Based Learning* http://forum.swarthmore.edu/~sarah/Discussion.Sessions/Blumenfeld.html

Brooks, J., Brooks, M., (1993). *In Search of Understanding the Case for Constructivist Classrooms*, Association for Supervision and Curriculum Development.

"Change Agentry for Trainers," by Diane Dormant and Kathy Beyers, Inservice Training for Regular Teachers: edited by Burrello and Kaye; published by Allyn and Bacon, 1981.

Colorado Department of Education, (1998). *Making Standards Work! A Teacher's Guide to Contextual Learning: Integrating Academic Content Standards with Career Development and Workplace Competencies.*

Contextual/Natural Learning. (October, 1998). http://www.humanoptions.com/learning.html

Daggett, W. (1997). *Planning Rigorous and Relevant Instruction – A Resource Kit,* International Center for Leadership in Education, Inc. www.daggett.com

Delisle, R., (1997). *How to Use Problem-Based Learning in the Classroom*, Association for Supervision and Curriculum Development http://www.ascd.org

Education Commission of the States, (June 1996). *Connecting Learning and Work – A Call to Action*, http://www.ecs.org

Garmston, R., & Wellman, B., (1996). *The Adaptive School: Developing and Facilitating Collaborative Groups*. Four Hats Press.

Gloeckner, G., & Love, C. (1992). Integrating Basic Skills into Vocational Teacher Education Curricula: Book 1 – The Initial Steps. Ft. Collins, CO.: Colorado State University

Greeno, J. G., Smith, D. R., & Moore, J. L. (1992). Transfer of situated learning. In D. Detterman & R.J. Sternberg (Eds.), *Transfer on trial: Intelligence, cognition, and instruction,* (pp. 99-167). Ablex. Norwood, NJ.

Hotchkiss, H., Longo, P., McAlonan S., (February 1999*). Making Standards Work* outline, Colorado Department of Education.

Hull, D. (1993). *Opening Minds Opening Doors*, CORD Communications.

Integrated Vocational and Academic Education: A Handbook Featuring Four Demonstration Sites (1996). Center on Education and Work.

Kolb, D.A., (1984). *Experiential Learning: Experience as the Source of Learning and Development* ,New Jersey: Prentice-Hall.

Lave & Wegner, (1991). Situated Learning: Legitimate Peripheral Participation. Cambridge University Press. Cambridge, MA.

Resource Bulletin, *Problem Based Learning*. (January 1998). http://www.ctap2.bcoe.butte.k12.ca.us/SCORE/problearn.html

Resource Bulletin, *Contextual Learning*, (April 1996). United States School-to-Work Office.

Resource Bulletin – *Contextual Learning*. (December 1997). http://www.stw.ed.gov/FACTSHT/bull0996.htm

Sandler, L., Vandegrift, A., VerBrugghen, C. (May 1995). *From Desert to Garden: Reconnecting Disconnected Youth*, Educational Leadership.

Spencer Kagan: Cooperative Learning Resources for Teachers, Concept Development Structures.

Steinbach, B., (1993). *The Adult Learner: Strategies for Success.* Crisp Publications, Inc.

The Workplace Applications Project: Connecting the Classroom to the World of Work. South King County Tech Prep Consortium.

Weber, R.C., (1982) *The Group: A Cycle from Birth to Death*, NTL Reading Book For Human Relations Training, NTL Institute.

Worker Qualities Rubric, Summit County School-to-Career Partnership, Colorado.

U.S. Department of Education
Office of Educational Research and Improvement (OERI)
National Library of Education (NLE)
Educational Resources Information Center (ERIC)

NOTICE

REPRODUCTION BASIS

This document is covered by a signed "Reproduction Release (Blanket) form (on file within the ERIC system), encompassing all or classes of documents from its source organization and, therefore, does not require a "Specific Document" Release form.

☐ This document is Federally-funded, or carries its own permission to reproduce, or is otherwise in the public domain and, therefore, may be reproduced by ERIC without a signed Reproduction Release form (either "Specific Document" or "Blanket").