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ABSTRACT

A survey was conducted of Colorado postsecondary career and technical programs in 1995 to gauge how the state has responded to mandates of the Carl Perkins Vocational and Applied Technology Act of 1990. Results were reported for the first three of nine standards developed by a statewide committee in 1992. The three standards require postsecondary programs to demonstrate student achievement in career and technical programs in the following areas: (1) basic and applied academic skills; (2) general occupational skills; and (3) specific occupational skills. Information was gathered through a survey questionnaire mailed to each postsecondary provider, with a follow-up, resulting in returns from 477 programs (91 percent). In the area of standard one, the survey results showed that programs use both commercial instruments (52%) and locally developed instruments (34%) to measure attainment in this area. Fewer than one-quarter of the programs had results available to show either gain scores or other data for standard one. For standard two, programs use a variety of methods to assess general occupational skills, with most programs using more than one method of assessment. The most frequently occurring method is tests, followed by checklists, "other," portfolios, and skills profiles. Nearly 19 percent of postsecondary programs indicate that they use pre- and posttests to assess general occupational skills whereas the remainder use other methods. About 38 percent of the programs were able to document student general occupational skills attainment. For standard three, programs use a variety of methods to assess specific occupational skills. The most frequent method is locally-developed assessments, followed by successful completion of the program, certification examinations, commercial instruments, portfolios, and "other." Nearly 22 percent of postsecondary programs indicate that they use pre- and posttests to assess specific occupational skills whereas the remainder use other methods. About 44 percent of the programs had results available to document student specific occupational skills attainment. (KC)

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TO: Postsecondary Vocational Educators and Other Interested Persons

FROM: Rick Voorhees 

RE: RESULTS, POSTSECONDARY SURVEY OF VOCATIONAL STANDARDS ONE THROUGH THREE

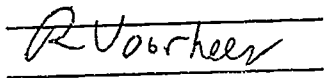
DATE: February 12, 1996

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This reports the results of the survey conducted in 1995 of all CCCOES approved postsecondary career and technical programs in Colorado. The intent of the survey was to gauge how Colorado has responded to mandates under the Carl Perkins Vocational and Applied Technology Act of 1990. These requirements made it necessary to create and carry out a statewide system of standards and measures. This report deals with the first three of nine standards developed by a statewide committee in 1992.

Designed to allow flexibility at the local level, Colorado Standards One through Three require postsecondary programs to demonstrate student achievement in career and technical programs. They include 1) basic and applied academic skills, 2) general occupational skills, and 3) specific occupational skills. No statewide profile has been available prior to the results reported here.

The survey questionnaire was mailed to each postsecondary provider in May 1995. A follow-up mailing to non-respondents was mailed in August 1995. CCCOES staff was involved in personally contacting non-respondents. By November 1995, 477 programs had returned questionnaires, representing 90.7% of all postsecondary career and technical programs in Colorado.

The pages immediately following are intended to provide highlights from this survey. The last section of this report contains more survey detail in spreadsheet form.

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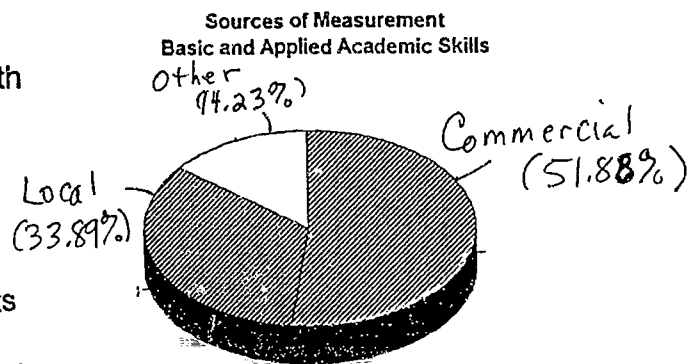
How have institutions responded to Standard One?

Standard One deals with demonstrating student gains in basic and applied academic skills. This standard deals with how well programs integrate basic skills within the career and technical curriculum.

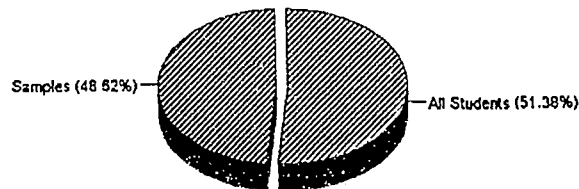
Programs use both commercial (52%) and locally-developed (34%) instruments or assessments to measure student attainment in this area. About 14 percent of programs report they use "other" sources of measurement to determine gains in basic and applied academic skills, a finding that is puzzling given that these programs did not specify alternative methods.

Programs also were asked whether they measured basic and applied academic skills of all students or samples of students. Responses suggest that postsecondary programs are almost evenly split in choice of measurement technique.

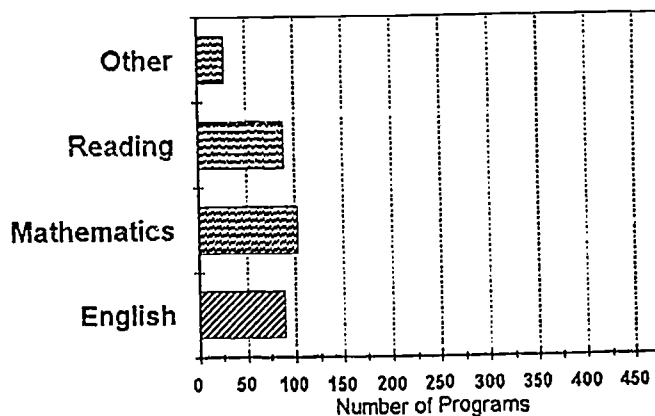
According to this survey, less than one-quarter of postsecondary programs have results, either gain scores or other data, to report for Standard One. Results were most frequently available for mathematics, followed by English, and reading. About 30 programs reported the availability of results in areas "other" than traditional basic skills.



Samples v. All Students
Basic and Applied Academic Skills

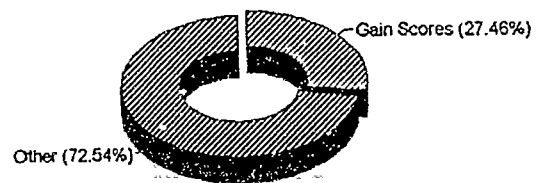


Availability of Results
Basic and Applied Academic Skills



**Gain Scores for Same Students
Basic and Applied Academic Skills**

There are several techniques for demonstrating gain in basic and applied academic skills. These include obtaining data from program entrants and comparing these data to program completers. Alternatively, some programs test the same students at entrance and at exit to produce gain scores. About 28 percent of Colorado postsecondary career and technical programs test basic skills functioning of the same students or a sample of the same students at entrance and at exit. The remainder of programs report that they compare data in order to *approximate* gains.

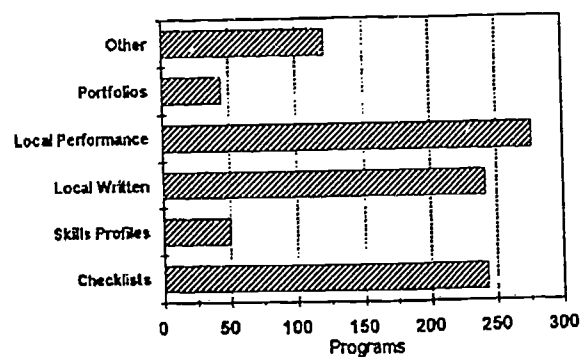


How have institutions responded to Standard Two?

Standard Two deals with demonstrating student gains in general occupational skills. General occupational skills are those skills needed for success in any workplace, no matter what career is chosen.

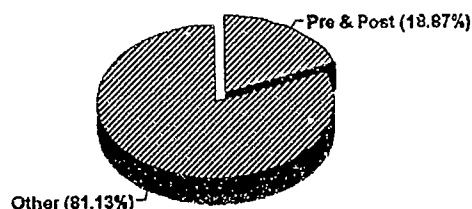
Programs use a variety of methods to assess general occupational skills. Programs frequently use multiple methods of assessment. The most frequently occurring method is tests, followed by checklists, "other," portfolios, and skills profiles. The category "other" may include demonstrations or other forms of rating devices.

**Sources of Measurement
General Occupational Skills**



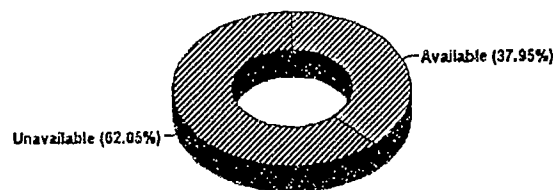
Nearly 19 percent of postsecondary programs indicate that they use pre- and post-tests to assess general occupational skills while the remainder use other methods. Unlike basic and applied academic skills (Standard One), this standard does not require that students demonstrate a *gain*. Nonetheless, many postsecondary programs suggest those gain scores for general occupational skills are in use.

Pre- and Post-testing
General Occupational Skills



Programs were asked to specify whether results were available to document student general occupational skills attainment. Almost 38 percent of the programs indicate availability of results. Such results are required for program approvals granted after July 1, 1995.

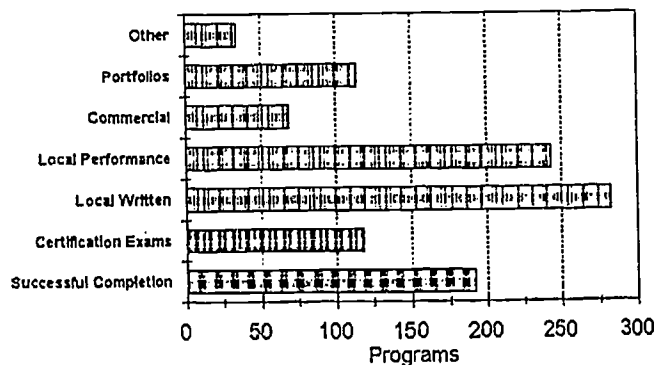
Availability of Results
General Occupational Skills



How have institutions responded to Standard Three?

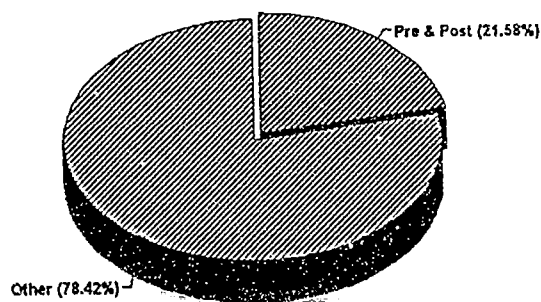
Programs use a variety of methods to assess specific occupational skills. The most frequently occurring method is locally developed assessments (both written and performance), followed by successful completion (of the program), certification examinations, commercial instruments, portfolios, and "other."

Sources of Measurement
Specific Occupational Skills



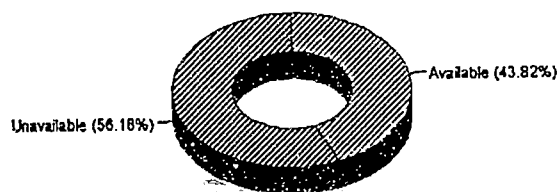
Nearly 22 percent of postsecondary programs indicate that they use pre- and post-tests to assess specific occupational skills while the remainder use other methods. Unlike basic and applied academic skills (Standard One), neither general or specific occupational skills standards require that students show a gain. Nonetheless, many postsecondary programs suggest that they produce gain scores for general and specific occupational skills.

Pre- and Post-testing
Specific Occupational Skills



Availability of Results
Specific Occupational Skills

Programs were asked to specify whether results were available to document student specific occupational skills attainment. Almost 44 percent of the programs responding indicated availability of results. Such results in this area are required for program approvals granted after July 1, 1995.



Colorado Postsecondary Vocational Standards, Survey Results

Standard One--Basic and Applied Academic Skills

Sources of Measurement for Basic and Applied Academic Skills

% of total	n	
Commercially Available Assessments		
14%	66	American College Testing (ACT)
13%	64	American College Testing (ACT)/Work Keys
12%	58	ASSET (ACT)
22%	105	California Achievement Test (CAT)
0%	1	Comprehensive/California Test of Basic Skills (CTBS)
0%	1	CAP Mathematics Skills Test
0%	1	College Assessment of Academic Proficiency (CAAP)
0%	2	College Basic Academic Subjects Examination (College BASE)
0%	1	Scholastic Achievement Test (SAT)
17%	82	Test of Adult Basic Education (TABE)
4%	20	Vocational Materials Laboratory, Academic Skills Portion
Locally developed Assessments		
24%	113	Checklist of basic and applied academic skills
19%	91	Test of basic and applied academic skills
12%	58	Student portfolio demonstrating basic skills proficiency
Other Sources of Measurement		
23%	110	

Measurement Strategies for Basic and Applied Academic Skills

% of total	n	
Average of measurement scores		
42%	199	All students at program entry
29%	137	All students at program exit
28%	134	A sample of students at program entry
18%	85	A sample of students at program exit
Average change or gain in measurement scores		
21%	98	All students at program entry and exit
21%	99	Samples of students at program entry and exit
Other measurement strategies		
25%	117	

Availability of Results for Basic and Applied Academic Skills

% of total	n	
Results for program completers		
9%	41	Achieving English scores of [n] or better
9%	42	Achieving mathematics scores of [n] or better
7%	35	Achieving reading scores of [n] or better
1%	7	Achieving [other academic area] scores of [n] or better
9%	42	Other results for program completers
Results for program enrollees (no exit testing of completers)		
10%	48	Achieving English scores of [n] or better
13%	61	Achieving mathematics scores of [n] or better
11%	54	Achieving reading scores of [n] or better
4%	20	Achieving [other academic area] scores of [n] or better
26%	126	Other results for program enrollees

Colorado Postsecondary Vocational Standards, Survey Results

Standard Two--General Occupational Skills

Sources of Measurement for General Occupational Skills

% of total	n	
49%	233	<u>Competency checklists for each student</u>
2%	10	Locally-developed Standardized
10%	50	<u>General occupational skills profiles from a commercial vendor</u>
		<u>Locally-developed tests/assessments</u>
51%	242	Written
58%	276	Performance
9%	44	<u>Student portfolios</u>
26%	122	<u>Other sources of measurement</u>

Measurement Strategies for General Occupational Skills

% of total	n	
7%	35	<u>Average of general occupational skills measurement scores</u>
40%	190	All students at program entry
9%	43	All students at program exit
11%	53	A sample of students at program entry
		A sample of students at program exit
		<u>Average change or gain in general occupational measurement scores</u>
18%	87	All students at program entry and exit
1%	3	Samples of students at program entry and exit
30%	145	<u>Other general occupational skills measurement strategies</u>

Average Results for General Occupational Skills

Avg.	<u>Results for program completers</u>
94.9	% achieving [84.2]% of general occupational skills
	<u>Results for program enrollees (no exit testing of completers)</u>
98.7	% achieving [70.0]% of general occupational skills

Colorado Postsecondary Vocational Standards, Survey Results

Standard Three--Specific Occupational Skills

Sources of Measurement for Specific Occupational Skills

% of total	n	
25%	118	Certification or Licensure Examinations
41%	194	Competency checklists for each student
1%	7	Locally-developed Standardized
59%	282	Locally-developed tests/assessments
51%	243	Written Performance
12%	55	Commercially available assessments
3%	14	Written Performance
24%	114	Student portfolios
40%	192	Successful completion of vocational program
7%	34	Other specific occupational skills measurement

Measurement Strategies for Specific Occupational Skills

% of total	n	
16%	78	Average of general occupational skills measurement scores
44%	208	All students at program entry
9%	43	All students at program exit
10%	49	A sample of students at program entry
		A sample of students at program exit
18%	84	Average change or gain in general occupational measurement scores
4%	20	All students at program entry and exit
		Samples of students at program entry and exit
28%	135	Other specific occupational skills measurement strategies

Average Results for Specific Occupational Skills

Avg.	Results for program completers
97.3	% achieving [81.8]% of general occupational skills
89.6	% achieving [n] score on certification/licensure examinations
	Results for program enrollees and exit testing of completers
98.6	% achieving [78.3]% of general occupational skills

NOTE: Percentages may not sum to 100% because of multiple survey responses
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