

# National Research Center for Career and Technical Education

## Career Education at the Postsecondary Level: Beginning Post-Secondary Student Outcomes 2004-2009.

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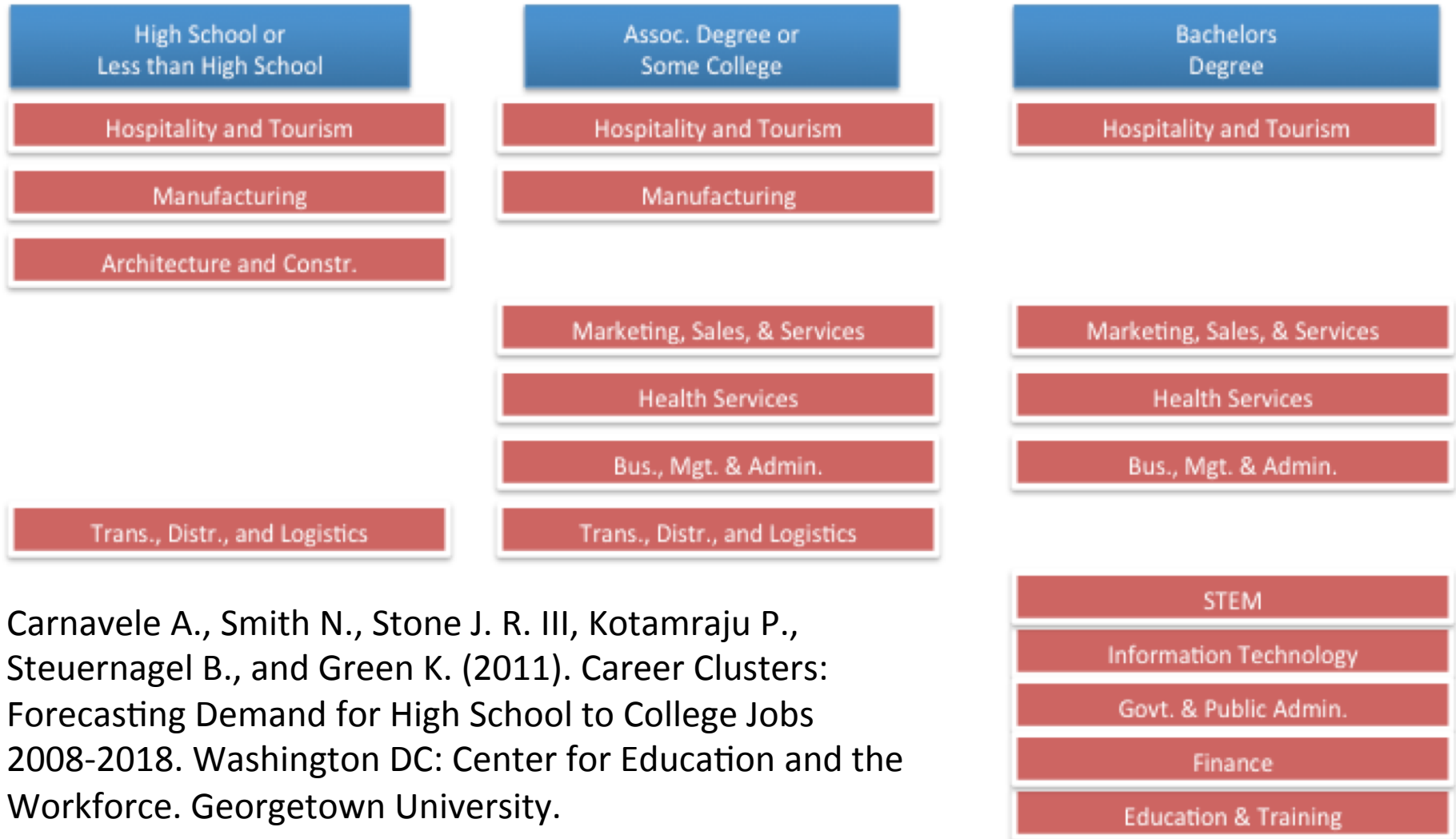
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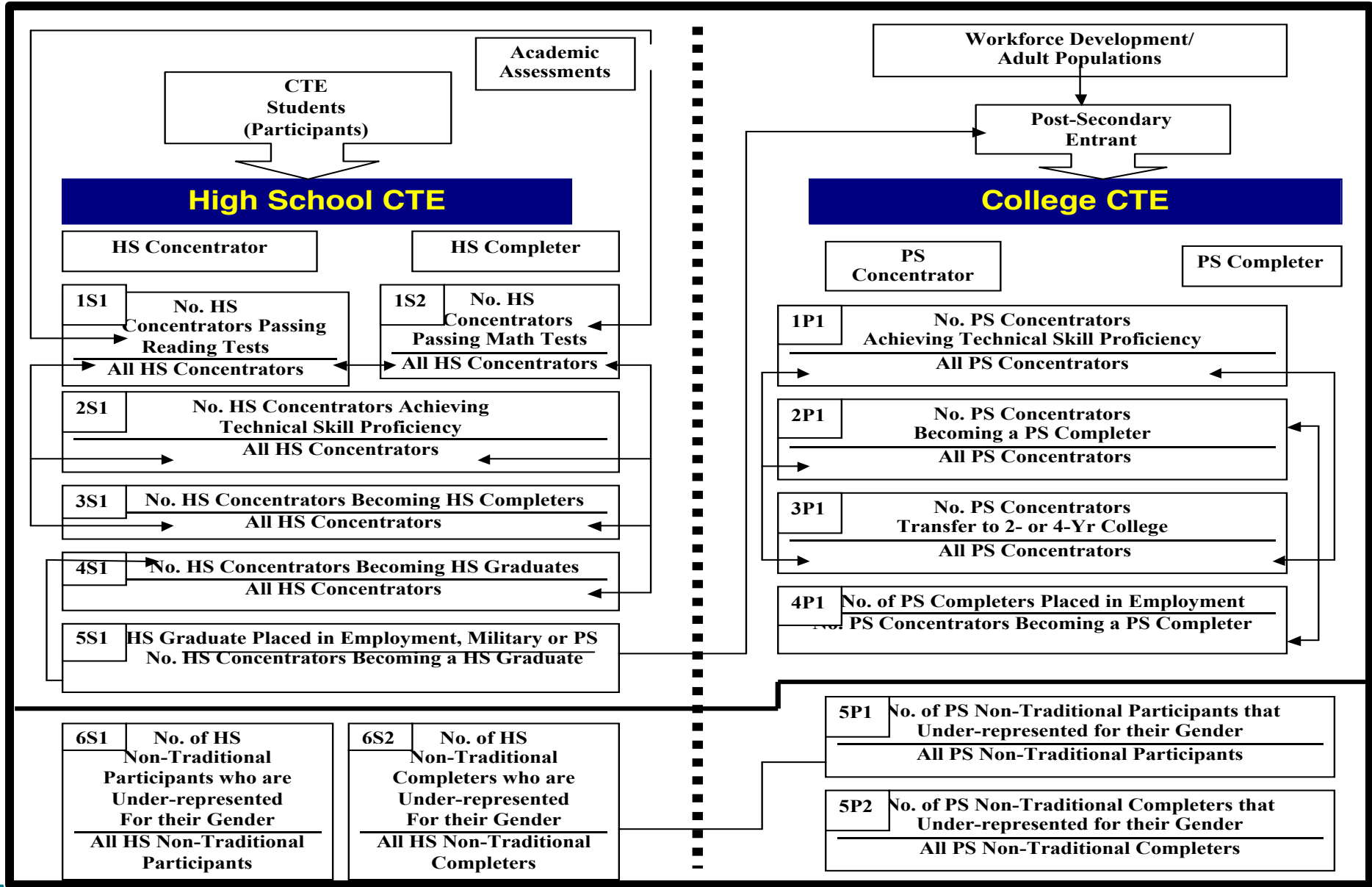
## High Demand/High Growth Clusters Paying a Living Wage by Education Level Requirements for Entry into an Occupation: 2008-2018



Carnavele A., Smith N., Stone J. R. III, Kotamraju P., Steuernagel B., and Green K. (2011). Career Clusters: Forecasting Demand for High School to College Jobs 2008-2018. Washington DC: Center for Education and the Workforce. Georgetown University.



# Linking secondary and postsecondary Perkins accountability indicators: A schematic representation.



# Needed Data Elements in a More Expansive Perkins Accountability System

Learner Segments	Learner Segments Defined	Needed Data Elements
Remediation/ Development Education (DE) Learners	Enrolled in one or more remediation/ DE courses	Assessment Cut Score, for each subject area and total; Subject(s) in which remediation occurs, taken concurrently with regular course coursework, is regular course work in technical (CTE) areas; Course count, highest level of DE course taken, grades.
Pre-College (K-12) Learners	Traditional HS students including those dual enrolled	Standard collection process applied in state and national data systems. Need to add, if missing, information from other learner segments; an important missing element for this group is college readiness separate from remedial/development education.
College Experience Learners	Traditional degree-seeking full-time undergrads below the age of 25	
Degree Completion Adult Learners	Traditional degree-seeking full time undergrads 25 and above	
Corporate Learners	Employer-sponsored customized training noncredit and credit students	Industry-recognized credentials, when taken, prior or concurrent; career cluster area; number, level, and proficiency score; formal and informal job training, type, professional or technical; credit for prior learning, given, how much, for major or as an elective.
Professional Enhancement/ Life-fulfillment Learners	Non-degree seeking students in credit or noncredit courses	Why course taken, which area, intent to pursue formal education.
Adult Basic Education (ABE)/ English Language Learners (ELL)	Enrolled in basic skills training, including those seeking a GED, where such courses are offered in institutional settings including community based organizations (CBOs) and workforce development intermediaries.	ABE proficiency scores, ABE levels reached; where course taken, college, ABE offices, non-profit community-based organizations (CBOs) and workforce development intermediaries; Need for taking bridge programs, type, area, when taken, part-time or full-time; support and wrap-around services, amount, type, time spent.

# METHODOLOGY

- Data: Beginning Postsecondary Students (BPS)
- Base Year (2004), 1<sup>st</sup> Follow-up (2006), and 2<sup>nd</sup> Follow-up (2009)
- Identify the different risk factors student face when entering postsecondary
- Determine who graduates, who is still retained, transfers on to further education, and moves into employment
- Indicate which occupational areas are the most likely ones BPS end up being employed
- Relate back to high school CTE course-taking using the 2005 HSTS transcript data

# Steps in Measuring Student Success in Completing an Educational Program and Being Placed in Employment

- **Step 1:** Begin with a longitudinal data set such as those developed by NCES or by states through their SLDS.
- **Step 2:** From this data system, identify a cohort of students with as much detail and disaggregation as possible. For example, this presentation disaggregates the data by different risk factors (see below).
- **Step 3:** Extract or calculate performance indicators such as retention, graduation, and transfer. Note that postsecondary success should be calculated separately for different learner segments, different pathways (career versus academic) or (two-year versus four-year)
- **Step 4:** Adding the three -- graduation, retention, and transfer --- together determine the rate of student success.
- **Step 5:** Determine the employment placement of both graduates and non-graduates by linking education and employment databases such as the P20/W systems that are now being developed several states

## Risks Factors that Prevent Students from Completing High School or Postsecondary

High School	Postsecondary
Single-Parent Family	Delayed enrollment between HS and PS
Income in the Lowest Income Quartile	Part-Time Attendance at First Institution
Sibling Dropped out of High School	Completed High School by Certificate or GED
Home Alone For More Than Three Hours	Worked Full-Time When First Enrolled
	Being Financially Independent (above age 24)
	Single Parent Before or While Enrolled

Hoachlander G., Sikora A.C., Horn L. and Carroll C. D. (2003). Community college students: Goals, academic preparation, and outcomes. NCES 2003-164. Washington DC: United States Department of Education, National Center for Education Statistics



# Risks Factors that Prevent Students from Completing High School or Postsecondary

- BPS includes in its database a Risk Index, which is made up of the following:
  - Full-time/pt. year
  - Part-time/full year, 1 inst.
  - Part-time/pt. year
  - Financially independent
  - Single parent Has Dependents
  - Worked Full-Time

Wine, J., Janson, N., and Wheelless, S. (2011). 2004/09 Beginning Postsecondary Students Longitudinal Study (BPS:04/09) Full-scale Methodology Report (NCES 2012-246). National Center for Education Statistics, Institute of Education Sciences, U.S. Department of Education. Washington, DC. Retrieved from <http://nces.ed.gov/pubsearch>.

**Graduation, Retention, and Transfer Rates for Beginning PostSecondary Students (BPS) by  
Career and Academic Pathways, Risk Factors, and High School Graduation Year**

	<b>High School Grad Yr: 2003</b>							
	Received 2-Year Credential		Retained in 2 Year		Transferred to 4-Year		Success Rate	
At-risk factors	Academic Education	Career Education	Academic Education	Career Education	Academic Education	Career Education	Academic Education	Career Education
<b>Full-time/pt. year</b>	19.7%	18.5%	8.0%	12.0%	6.9%	11.2%	<b>34.6%</b>	<b>41.7%</b>
<b>Part-time/full year, 1 inst.</b>	22.7%	24.6%	13.0%	14.0%	8.9%	16.2%	<b>44.6%</b>	<b>54.8%</b>
<b>Part-time/pt. year</b>	31.6%	16.3%	17.1%	15.1%	18.4%	17.7%	<b>67.1%</b>	<b>49.1%</b>
<b>Financially independent</b>	25.7%	28.3%	1.9%	11.6%	23.6%	16.0%	<b>51.2%</b>	<b>55.9%</b>
<b>Single parent</b>	13.0%	25.9%	4.6%	13.4%	19.0%	16.0%	<b>36.6%</b>	<b>55.3%</b>
<b>Has Dependents</b>	14.7%	27.7%	4.4%	13.4%	18.1%	17.2%	<b>37.2%</b>	<b>58.3%</b>
<b>Worked Full-Time</b>	17.9%	40.0%	11.7%	19.3%	13.3%	14.7%	<b>42.9%</b>	<b>74.0%</b>
	<b>High School Grad Yr: 1998-2002</b>							
<b>Full-time/pt. year</b>	11.3%	26.7%	10.6%	8.9%	3.1%	7.7%	<b>25.0%</b>	<b>43.3%</b>
<b>Part-time/full year, 1 inst.</b>	30.9%	28.8%	13.0%	16.8%	13.4%	14.6%	<b>57.3%</b>	<b>60.2%</b>
<b>Part-time/pt. year</b>	12.4%	14.1%	28.4%	15.2%	4.2%	11.8%	<b>45.0%</b>	<b>41.1%</b>
<b>Financially independent</b>	21.5%	35.8%	12.1%	11.4%	13.6%	8.4%	<b>47.2%</b>	<b>55.6%</b>
<b>Single parent</b>	11.5%	31.2%	8.5%	11.0%	9.1%	8.5%	<b>29.1%</b>	<b>50.7%</b>
<b>Has Dependents</b>	19.6%	36.4%	15.1%	11.7%	9.0%	6.7%	<b>43.7%</b>	<b>54.8%</b>
<b>Worked Full-Time</b>	24.8%	33.7%	8.8%	19.8%	13.0%	8.1%	<b>46.6%</b>	<b>61.6%</b>
	<b>High School Grad Yr: &lt;1998</b>							
<b>Full-time/pt. year</b>	16.2%	25.6%	16.0%	7.7%	0.1%	6.5%	<b>32.3%</b>	<b>39.9%</b>
<b>Part-time/full year, 1 inst.</b>	21.0%	25.5%	1.0%	11.7%	6.5%	9.4%	<b>28.5%</b>	<b>46.6%</b>
<b>Part-time/pt. year</b>	10.5%	15.1%	4.5%	15.9%	6.4%	6.6%	<b>21.4%</b>	<b>37.6%</b>
<b>Financially independent</b>	19.8%	33.7%	4.2%	9.6%	4.6%	7.0%	<b>28.6%</b>	<b>50.3%</b>
<b>Single parent</b>	9.2%	32.1%	8.7%	12.5%	2.5%	9.7%	<b>20.4%</b>	<b>54.3%</b>
<b>Has Dependents</b>	17.5%	34.1%	6.1%	9.8%	2.1%	7.1%	<b>25.7%</b>	<b>51.0%</b>
<b>Worked Full-Time</b>	16.2%	25.3%	2.8%	15.2%	7.5%	7.0%	<b>26.5%</b>	<b>47.5%</b>

## Success Rates for Beginning Postsecondary Students Entering Two-Year Institutions: Risk Factors and High School Graduation Years - 1998, 1998-2002, and 2003

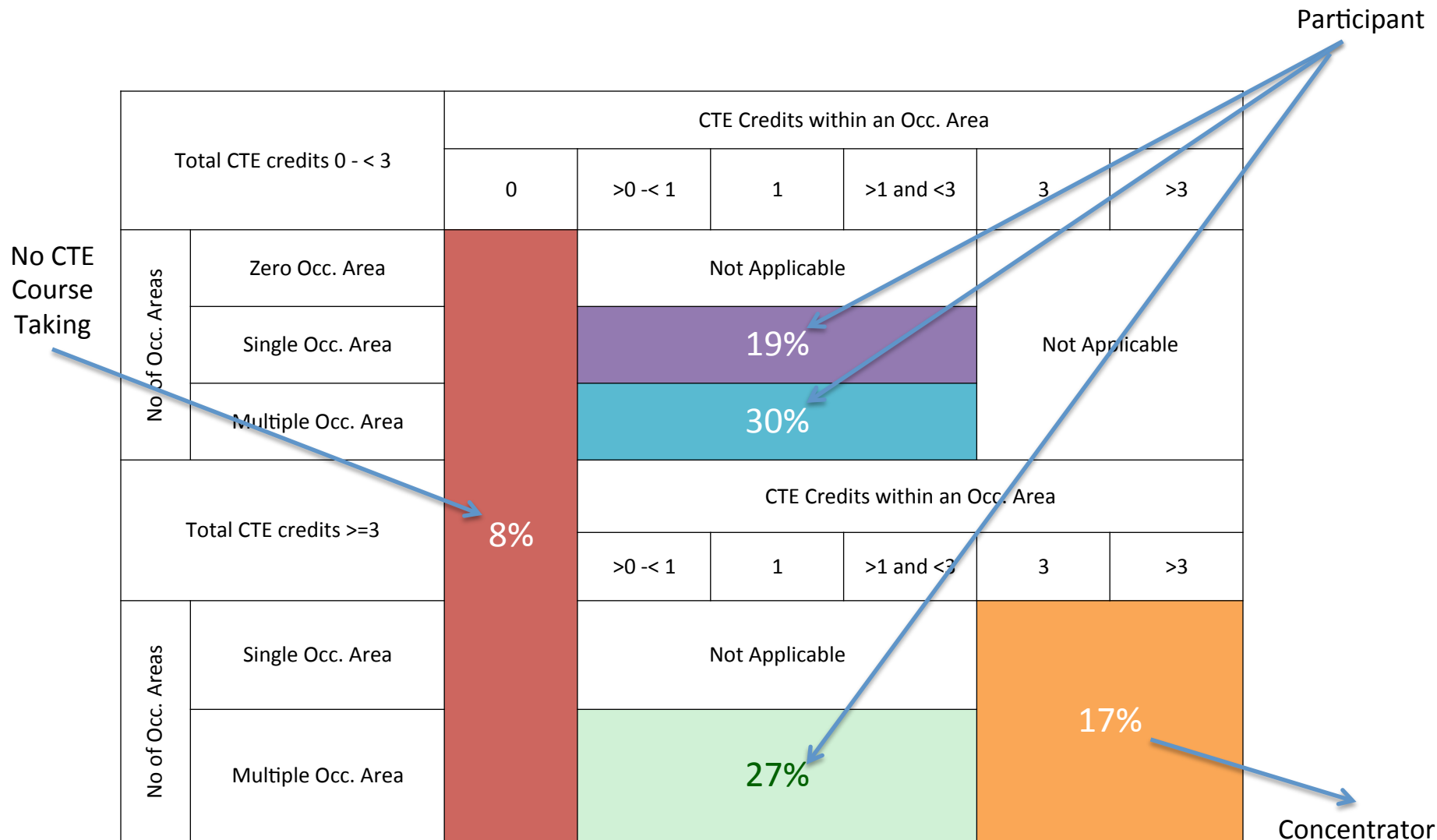
	Success Rate <1998		Success Rate 1998-2002		Success Rate 2003	
At-risk factors	Academic Education	Career Education	Academic Education	Career Education	Academic Education	Career Education
Full-time/pt. year	32.3%	39.9%	25.0%	43.3%	34.6%	41.7%
Part-time/full year, 1 inst.	28.5%	46.6%	57.3%	60.2%	44.6%	54.8%
Part-time/pt. year	21.4%	37.6%	45.0%	41.1%	67.1%	49.1%
Financially independent	28.6%	50.3%	47.2%	55.6%	51.2%	55.9%
Single parent	20.4%	54.3%	29.1%	50.7%	36.6%	55.3%
Has Dependents	25.7%	51.0%	43.7%	54.8%	37.2%	58.3%
Worked Full-Time	26.5%	47.5%	46.6%	61.6%	42.9%	74.0%

# Reformulating CTE Course Taking

Total CTE credits 0 - < 3		CTE Credits within an Occ. Area					Participant	
		0	>0 -< 1	1	>1 and <3	>3		
No CTE Course Taking	Zero Occ. Area	0	Not Applicable			Not Applicable		
	Single Occ. Area		1					
	Multiple Occ. Area		2					
Total CTE credits >=3		0	CTE Credits within an Occ. Area					Concentrator
			>0 -< 1	1	>1 and <3	3	>3	
No of Occ. Areas	Single Occ. Area		Not Applicable			4		
	Multiple Occ. Area	3						

0 is No CTE Course Taking; 1,2, and 3 are classified as Participants; 4 is classified as Concentrators

# Reformulating CTE Course Taking



0 is No CTE Course Taking; 1,2, and 3 are classified as Participants; 4 is classified as Concentrators

**Comparing the Top Six Occupation Areas in which Associate Degree Graduates are Employed with  
the Top Six Occupational areas in which 2005 High School Graduates enroll and complete 3 or More CTE Credits.**

Received Associate Degree by 2009		High School Graduating Class 2005			
Beginning Postsecondary Students Who Graduated from High School in 2003 and were Employed by 2009		3+ CTE Credits with concentration in at least one occupational area		3+ CTE Credits with no concentration in any occupational area	
Office/administrative support occupation	13.0%	Manufacturing	16.0%	Computer and Information Sciences	48.3%
Sales and related occupations	12.1%	Consumer Services	14.6%	Consumer Services	45.9%
Education, training, library occupations	10.9%	Computer and Information Sciences	12.8%	Business Support & Management	39.7%
Management occupations	9.2%	Agricultural and Natural Resources	11.9%	Communication & Design	34.5%
Food prep/serving related occupations	6.9%	Health Sciences	10.3%	Manufacturing	22.7%
Healthcare practitioners/technical	6.5%	Communication & Design	9.5%	Business and Finance	19.7%