

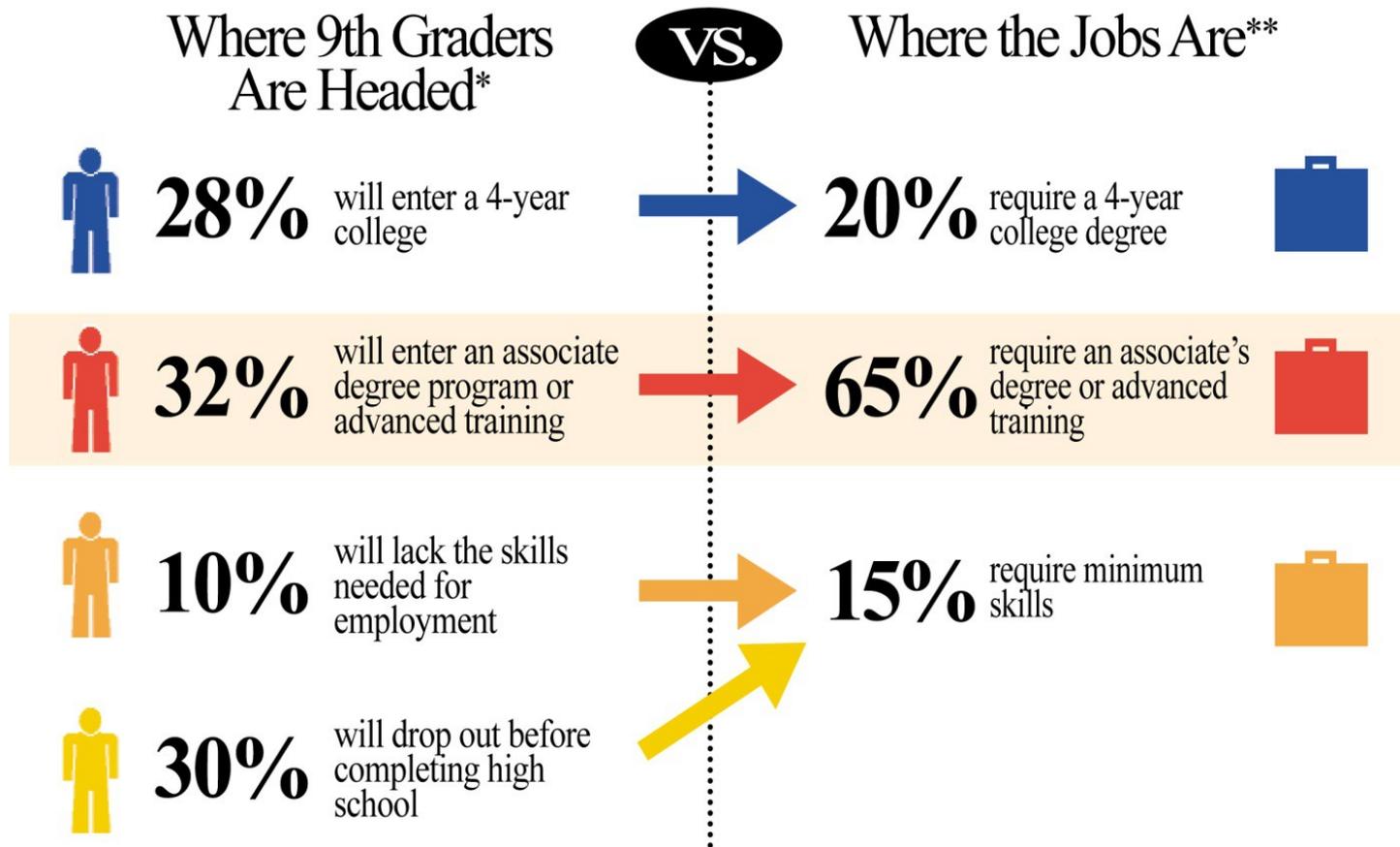


Students From Start to Finish: Identifying Success Factors within Workforce Clusters

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The Workforce Gap



Source: Pathways to Prosperity,
2001

Clusters



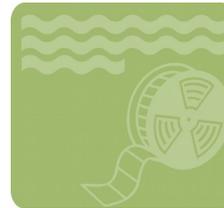
- New Carolina-South Carolina's Council on Competitiveness has identified 18 **industry clusters** for the state
- South Carolina's *Education and Economic Development Act of 2005* identified 16 **career clusters** that align K-12 education to job fields

Workforce Clusters

The System has identified five broad-based **workforce clusters**



Advanced
Manufacturing



Tourism



Energy



Transportation
and Logistics



Health Care

Existing Literature

Existing Literature

- 42% of public two-year college students are required to complete at least one developmental education course (National Center for Education Statistics, 2003)
- 80% of students who begin developmental courses in reading, writing, and mathematics persist to the end of the semester
 - 72% earn grades of C or higher
 - 69% pass college-level reading, 64% pass writing, 58% pass math (Gerlaugh, Thompson, Boylan, and Davis, 2007)

Existing Literature

- Students concurrently enrolled in developmental and college-level courses perform at lower levels in college-level courses compared with those not taking developmental courses (Illich, Hagan, and McCallister, 2004)
- The differences are due to those concurrently enrolled who do not successfully complete their developmental course(s)

Existing Literature

- Colleges attribute attrition to student characteristics
 - Low preparation for college
 - Limited financial resources
 - Low motivation
 - External demands on time(Habley and McClanahan, 2004)
- Academic and social integration contributes to enhanced retention (Tinto, 1993)
 - Student retention specialists
 - Students at-risk of dropping out had higher retention rates than the general student population
 - Higher retention rates consistent among all ethnic groups (Escobedo, 2007)

Existing Literature

- Men graduate in less time than women (Kolajo, 2004)
- Women have slightly higher graduation rates than men (National Center for Education Statistics, 2008)
- Younger students graduate in less time than older students (Kolajo, 2004)
- Black non-Hispanic and Hispanic students graduate at lower rates than White non-Hispanic and Asian/Pacific Islanders (National Center for Education Statistics, 2008)

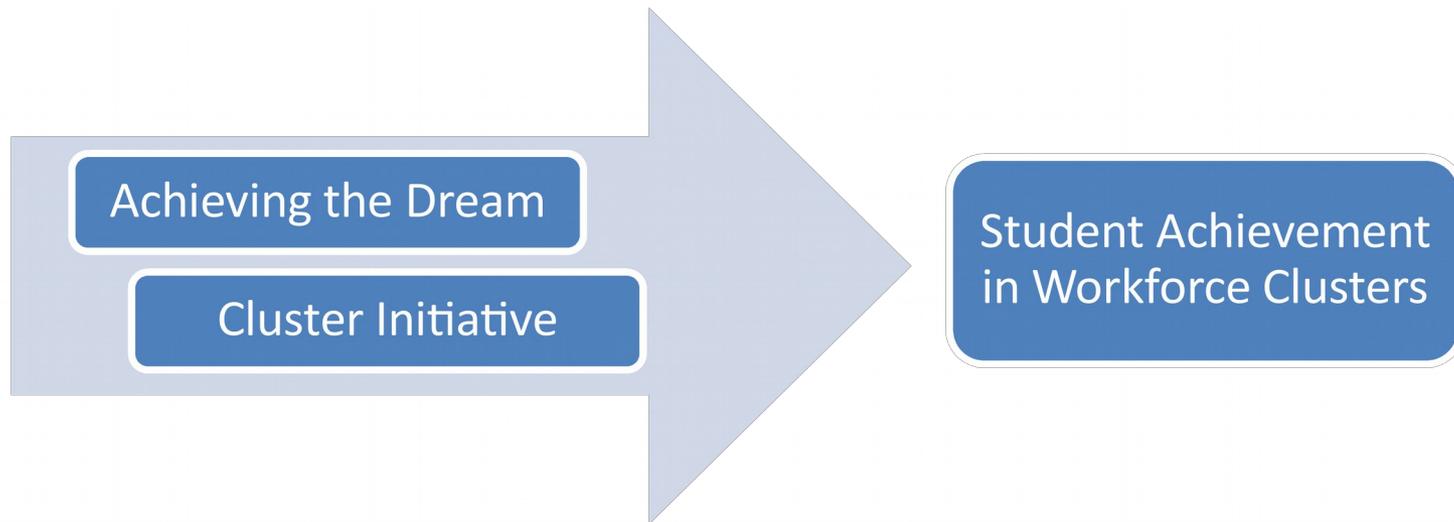
Achieving the Dream: Community Colleges Count

ACHIEVING
THE DREAMSM
COMMUNITY
COLLEGES
COUNT

- A multi-year initiative that aims to help more students succeed through evidence-based interventions
- The South Carolina Technical College System joined the initiative in 2007

Conceptual Framework and Research Questions

Conceptual Framework



Research Questions

What factors influence student success in particular cluster areas?

What differences emerge among students in indentified clusters?

Demographics

Student Demographics

Number of first-time, full-time students	3,177
Females	1,464
Males	1,713
Caucasian	2,245
African-American	746
Average Age at Time First Enrolled	22.38
Number of students taking one or more DVS courses	32%
12% lived in a distressed county	
50% received Lottery Tuition Assistance	
Study included years 2002, 2003, and 2004	

Students



**Advanced
Manufacturing:**

468 students



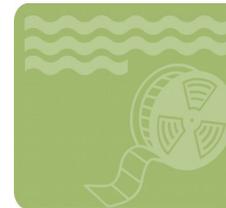
Energy:

492 students



Health Care:

1,366 students



Tourism:

383 students



Transportation:

468 students

Procedures

Procedures

- Backward Binary Logistic Regression
 - First-to-Second Year Retention (1=Yes; 0=No)
 - Graduation in 150% of time (1=Yes; 0=No)
- Type I Error Rate
 - Model testing - 5%
 - Variables in models - 10%
- Pseudo-R² (Nagelkerke)

Predictor Variables

- Age
- Gender
- Ethnicity
- County of Residence
- Average Number of Credits per Semester
- DVS Math
- DVS English
- DVS Reading
- Pell Grant receipt
- LTA receipt

Outcome Variables

- Retention: whether a student returned in the fall of his/her second year
- Graduation: having met the graduation requirements for his/her program of student in 150% of suggested completion time

Results

Retention

Students Were More Likely to be Retained...

If they were female

If they did not require DVS Math

If they did receive LTA funds

Graduation

Students Were More Likely to Graduate...

If they did not take DVS Math

As the average number of credits per semester increased

If they began the program at an earlier age

If they were female

Advanced Manufacturing

Students Were More Likely to be Retained...

If they lived in a distressed county

If they did not take DVS Math

Students Were More Likely to Graduate...

As the average number of credits per semester increased

If they did not take DVS English

If they lived in a distressed county

If they began the program at an earlier age

Energy

Students Were More Likely to be Retained ...

With every year increase in age

If they did not take DVS Math

If they were female

Students Were More Likely to Graduate...

As the average number of credits per semester increased

If they were not eligible for Pell Grants

Health Care

Students Were More Likely to be Retained...

If they did receive Lottery Tuition Assistance

If they did not take DVS Math

Students Were More Likely to Graduate...

As the average number of credits per semester increased

If they did not take DVS Math

If they were White

Tourism

Students Were More Likely to be Retained...

They were not eligible for Pell Grants

Students Were More Likely to Graduate...

As the average number of credits per semester increased

Transportation

Students Were More Likely to Graduate...

As the average number of credits per semester increased

If they did not take DVS Math

No retention variables were considered significant in the Transportation cluster

Cohort Analysis

Cohorts 1 and 2 were combined because no cohort effect was found between the two

Students in Cohorts 1 and 2 Were More Likely to be Retained...

As the average number of credit hours increased

If they did not take DVS Reading

Students in Cohorts 1 and 2 Were More Likely to Graduate...

As the average number of credit hours increased

If they did not take DVS Math

If they did not take DVS English

If they were younger

If they were female

Cohort Analysis

Cohort 3 was tested separately because Pell eligibility was available for this cohort but not the others

Students in Cohort 3 Were More Likely to be Retained...

If they were female

If they received Lottery Tuition Assistance

If they did not take DVS Math

Students in Cohort 3 Were More Likely to Graduate...

As the number of credit hours increased

If they did not take DVS Math

If they were younger

If they were female

Discussion

Discussion: Retention

- Students taking developmental studies courses may perform or retain at lower levels
- Women persist at higher rates than men
- Availability of financial resources significant in predicting student persistence

Discussion: Graduation

- Number of credit hours earned each semester impacts time to graduation
- Decreased likelihood of earning degrees among older students
- Women graduate at higher rates than men

Discussion: Clusters

- General lack of consistency among different workforce clusters
- A cluster-specific initiative is necessary to address needs within each to increase retention and graduation

Policy Recommendations

- Support the continuation and growth of the LTA program
- Implement cluster-specific initiatives that address the variables that contribute to student attrition
- Create an initiative that identifies pathways for adult students
- Support the work of *Achieving the Dream* in recommending success measures other than 150% of time to graduation
- Continue to focus on improvements in developmental studies

Limitations

- Student data were not available on cohorts entering prior to 2002
- Lack of data availability before 2002 resulted in using the 150% of time definition for graduation, which is not ideal measure for measuring student completions
- Pell eligibility data were only available for one cohort

Future Research

- Employ a four- or six-year graduation measure with Pell data on all cohorts
- A qualitative component could provide rich description into student experiences
- Further study into cluster-based approach and specific student-success interventions
- A partnership with other *Achieving the Dream* states would result in an expanded look into the impact of policy initiatives
 - Experimentation with interventions among *Achieving the Dream* colleges and those not participating in the initiative

Questions?

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