Career and Technical Education/Higher Education: Connection and Disconnection

Present to

Vermont House Education Committee

February 16, 2016

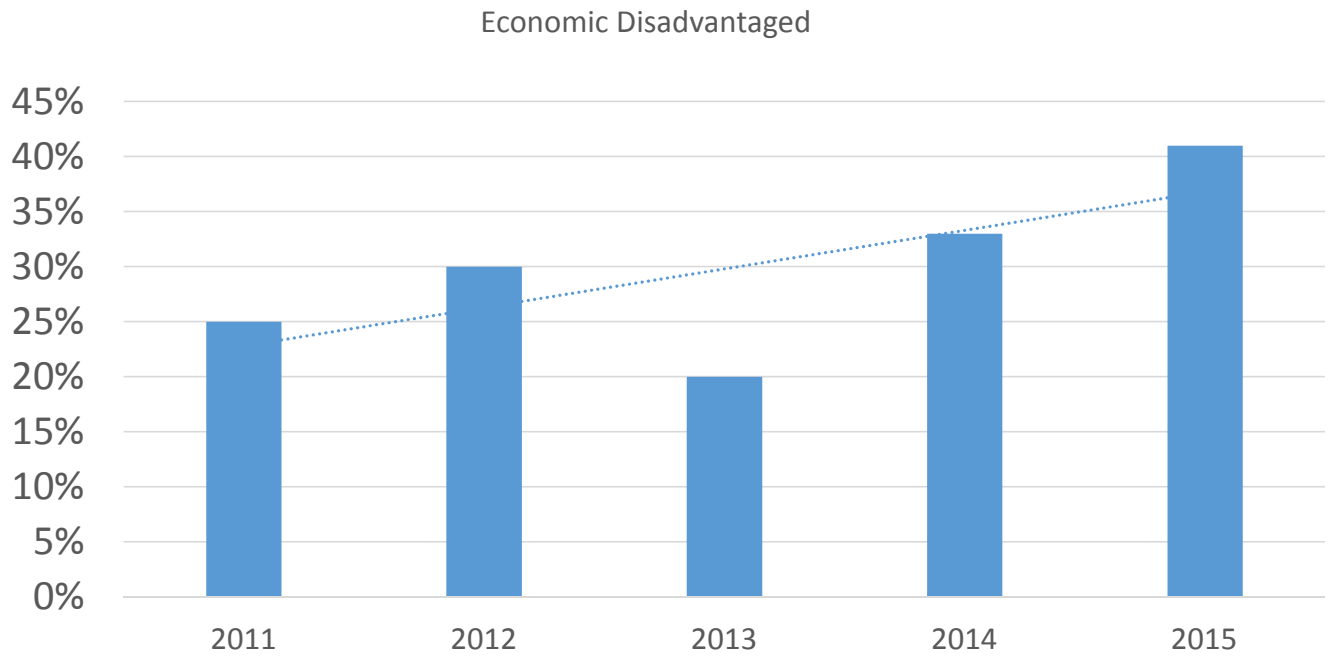
Vermont
Job Picture
2020

- 87% of the 67 most promising jobs require an associates degree or more.
- Only 13% of those jobs require less than an associates degree.
- Most of that 13% require some industry recognized credential and or an apprenticeship.
- 57% of jobs in 2020 will be in a STEM related field and will require a Bachelor Degree or more

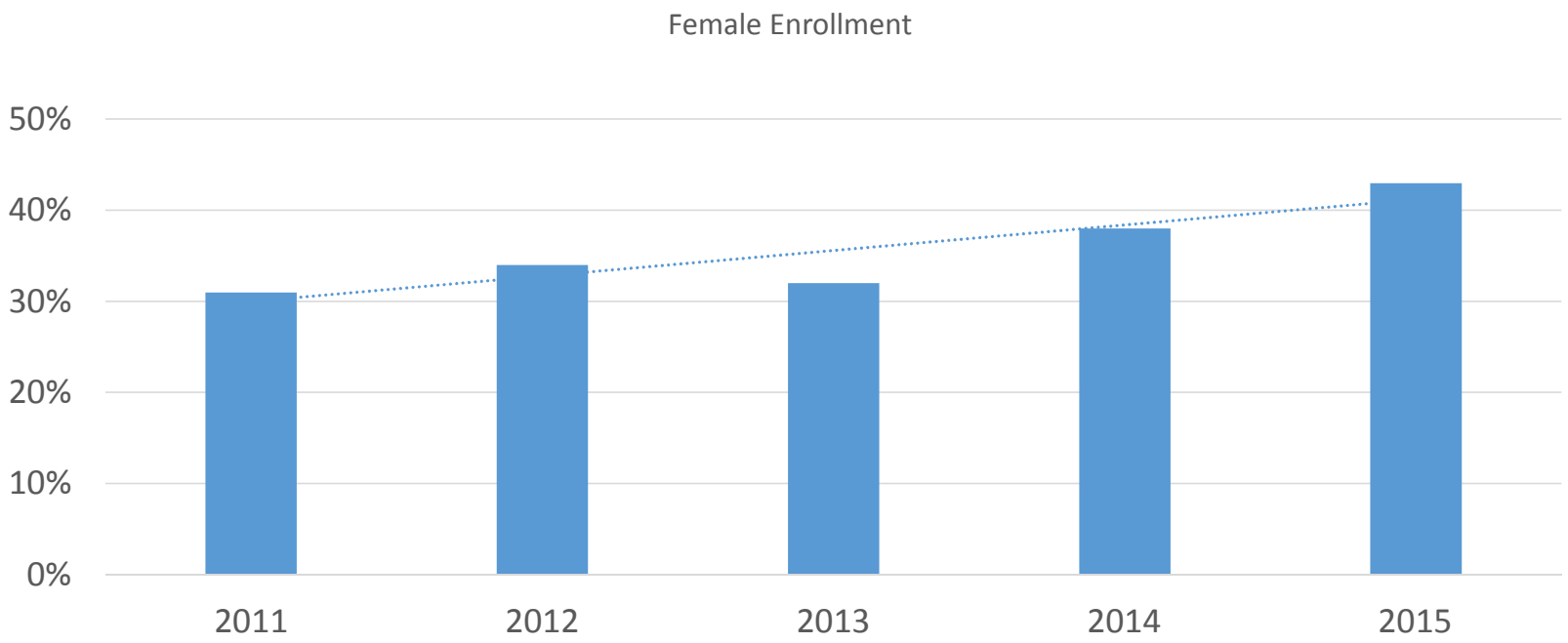

Stanley Staphylococcus
CERTIFIED
please do not leave fan on all the time, motor will burn out. Thanx!!
LABCONCO
VORTEX-GENIE 2

Present Reality

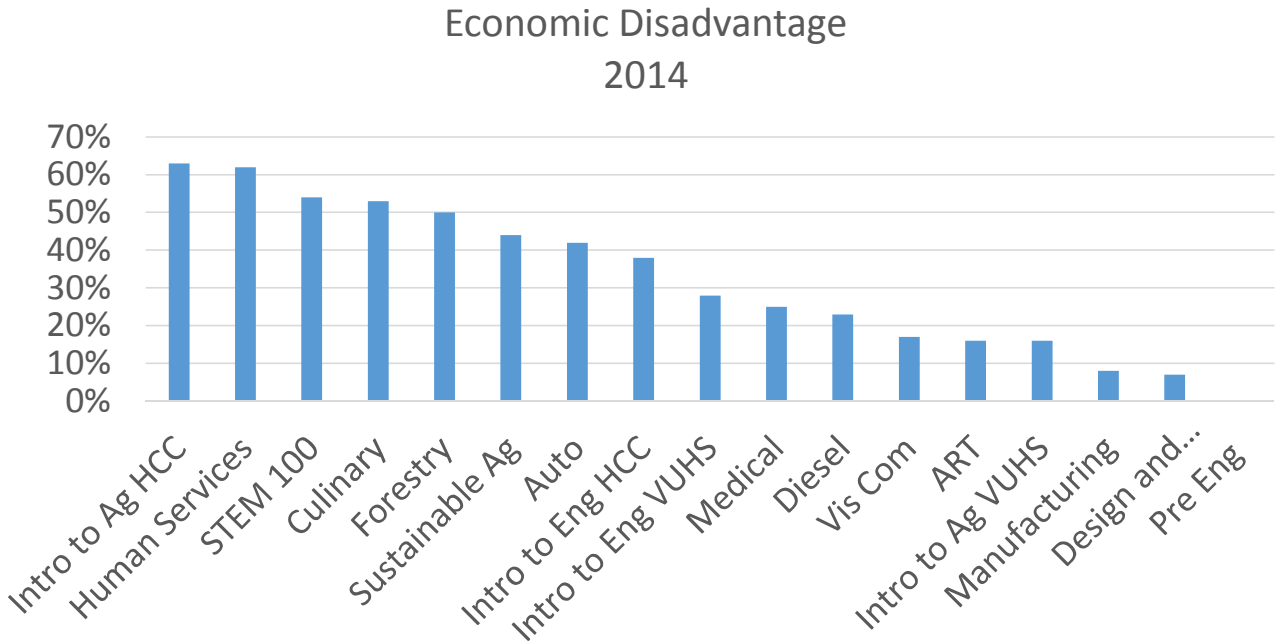
- 87% of Vermont HS Students Graduate
- 64% of Vermont HS Graduates Enter Post Secondary
- 24 % will earn a 4 year degree
- Economically Disadvantaged Students Do Worse
- Young Women are under represented in STEM fields



- PAHCC Economic Disadvantaged



- PAHCC Female Enrollment



- PAHCC ED Enrollment by Program of Study

PAHCC Profile

- Over 50% of our students are not meeting state standards in math and language arts.
- A third of our students are on educational plans (IEPs, 504s).
- 98% of our students graduate high school.
- 87% of our students pursue post secondary education.
- 65% of our students complete their post secondary degree on time.
- 98% of our students are employed, in school, or in the military as per 3 year post graduate surveys.

Some Things We Know

- At third grade, girls like math and think they are good at it.
- By sixth grade this confidence begins to diminish.
- By six grade most girls future plans include college
- But most do not know what they want to do
- By six grade only about half of boys include college in their future plans
- But most can identify a future career


Celebrity
45
Derbowl

We have a ‘boy’ problem

- By 12th grade, male reading scores are below females’
- 11th grade boys write at an 8th grade girl level
- Boys advantage in math and science is nearly gone.
- Boys are more likely to have discipline problems
- Boys account for ¾ all D’s and F’s
- Fewer boys than girls finish high school, start and finish college, start & finish grad school (Brooks, 2012)

What Works

- Dual Enrollment
  - Dual Enrollment students are 11% more likely to persist through the second year of college
  - Dual Enrollment students are 12% more likely to enter college within 7 months of high school graduation
  - Dual Enrollment students who do enter college within 7 months are 16-20 % more likely to complete a BA
  - Dual Enrollment students who had not anticipated earning a BA are 12% more likely to graduate with a BA than non-participating students who had originally intended to earn a BA

  Source: AN ANALYSIS OF THE IMPACT OF HIGH SCHOOL DUAL ENROLLMENT COURSE PARTICIPATION ON POST-SECONDARY ACADEMIC SUCCESS, PERSISTENCE AND DEGREE COMPLETION. (Swanson,Joni, University of Iowa, College of Education, May 2008)

What Works

- Mentorship and Early Intervention
  - Summer Tech Camp
  - Lunch Bunch Maker Space
  - After School Coding Class (Parents are welcome)
- Working on long term real world problems that incorporate math, science, and language arts (Enhanced CTE Projects)
- Coach classes in math and language arts associated with programs of study
- COOPs, Apprenticeship, Job Shadows
- Have I mentioned Dual Enrollment

Case Study
Power Diesel Technology
Cira 2002

- Average of 6 to 7 graduates per year
- 0% went on to post secondary
- Over crowded and unsafe lab and class room environment
- No Dual Enrollment
- Program was on the verge of being eliminated

Case Study
Power Diesel Technology
Cira 2014

- 6 dual enrolled credits (Electronics and General Maintenance)
- 20 students enrolled in level I
- 17 students enrolled in Level II
- Average 17 graduate per year
- 94% continue their education
- 88% complete at least an associates degree
- Moved into new space in 2005
- Perennial winners of Skills USA and Tractor Trouble Shooting
- 3 students finish in the top ten in the nation Skills USA

To Truly Transform Education:

- A college and career ready system approach built on functional partnerships among K-12, post-secondary and business and industry that offer:
- High quality programs that link college ready academics with rigorous technical education delivered by:
- Skilled educators with deep knowledge of the career field and skilled in effective pedagogies.
- Includes apprenticeships and “Stacked Credentials”
- That are aligned to college credit leading to degrees