Meeting Nontraditional Enrollment Goals

To meet the standards set by the Carl Perkins Act, a significant source of funding for CTE, we need to help more young men and women complete programs that are nontraditional for their gender. This isn’t just a bureaucratic requirement; it’s also also a social goal that many of us admire.

We all benefit when young women have the encouragement they need to succeed in nontraditional fields like engineering and computer science and young men are supported in health sciences and teacher education. Our economy will be stronger when every student can find a job that fits them and every career is open to the widest possible pool of talent.

Last year, when I interviewed Virginia teachers who were successful in enrolling nontraditional students, I learned that marketing and outreach were a big part of their success. Teachers uniformly believed that direct contact was the best way to reach students — to make sure that they were aware of CTE courses and their benefits and felt comfortable enrolling. CTE teachers’ individual connections with students were an important part of this, but they believed their connections with others in school were also important. When academic as well as CTE teachers, administrators, and counselors throughout a school are comfortable talking one-on-one to students about CTE and supporting students who are interested in nontraditional programs, then nontraditional enrollments tend to rise.

But this is often easier said than done. In some small schools all teachers and administrators know each other and gladly cross-promote. In large schools or schools where CTE is cut off from other programs, this can be difficult. In some divisions CTE teachers have worked hard to reach out to nontraditional students but still have trouble meeting their goals. If your CTE program has worked on improving outreach but still isn't seeing
a rise in enrollment, it's probably time to look for help.

While "getting the word out" is clearly the essential first step to reaching nontraditional students, sometimes it takes more than this. Sometimes even when nontraditional students enroll they don't have the social support or the academic preparation that they actually need to stay in programs to completion. If your school is having success generating student in-

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**Root Causes for Success with Nontraditional Students**

**Summary of NAPE Root Causes Chart**

- Academically proficient women are more likely to choose nontraditional careers, while the opposite is more predictive for men.
- Success in math, science, and technology courses increases the likelihood of women participating in nontraditional careers.
- Elements of a bias-free curriculum include: relevancy, inclusive images and text, and hands-on instructional practice.
- Females prefer learning experiences that they help to design, that are learner centered, and that involve them in a community.
- Students in a school climate supportive of nontraditional careers are more likely to choose one.
- Receiving support services makes students in nontraditional CTE programs more likely to succeed.
- Career guidance materials and practices that adhere to equitable standards can increase participation. Brochures, talks, or demonstrations alone are helpful, but insufficient.
- Providing information about nontraditional careers to elementary and middle schoolers will increase participation in nontraditional careers.
- Careers that give back to the community can attract both men and women to nontraditional fields. Providing information about high-wage, high-skill occupations, especially STEM, promotes participation.
- Characteristics and engagement of family of origin have a strong influence on career choice.
- The strength of a female’s self-efficacy is directly related to entry and persistence in an nontraditional career.
- Reducing stereotype threat positively influences achievement.
- Negative Media solidifies gender stereotyping.
- Positive media portrayal of individuals in nontraditional careers increases participation.
- The opinions of peers, especially during adolescence, can influence nontraditional career choice.
- A nontraditional mentor, is a significant factor in the decision to pursue a nontraditional career.
- Collaboration between schools and community-based organizations and business impacts the pipeline for nontraditional careers.

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**Do you know which CTE courses are nontraditional in Virginia?**

The courses that schools must target in order to meet Perkins requirements are officially designated by the Office of Career and Technical Education Services and listed in the appendices to the CTERS User's Manual. Check through this quick list of nontraditional courses to make sure you know which ones qualify. It is not always obvious which courses are designated nontraditional and for which gender.
terest and enrollment, but nontraditional students aren’t sticking with the program to become completers, it’s probably time to look for more help.

**Resources from the National Alliance for Partnerships in Equity (NAPE)**

The [National Alliance for Partnerships in Equity](https://www.napecenter.org) has resources you can use. NAPE is a membership organization and some resources are restricted to members, but many are free on their website.

The first step to rethinking your approach to nontraditional students might be to check out [Nontraditional Career Preparation: Root Causes and Strategies](https://www.napecenter.org/resources/career-preparation/root-causes-and-strategies). On this web page NAPE summarizes research on why students do and do not complete nontraditional programs and move into nontraditional careers. They also summarize strategies for addressing each of these causes and provide information and resources for implementing these strategies.

NAPE has also developed a five-step strategic planning process, called [Program Improvement Process for Equity (PIPE)](https://www.napecenter.org/resources/pipe) to help schools and colleges take a systematic approach to addressing nontraditional enrollment and completion. NAPE professionals work with schools to implement this process, but they also provide [resources online](https://www.napecenter.org/resources) to help you begin assessing your own programs. NAPE recommends a 5-step process to address enrollment and retention problems:

- **ORGANIZE.** Build a team that includes secondary and postsecondary partners committed to improvement.
- **EXPLORE.** Analyze data to document current and past performance and use this to identify improvement priorities.
- **DISCOVER.** Determine the most important and most direct causes of performance gaps in your school.
- **SELECT.** Select solutions that have the greatest potential to eliminate the barriers students are facing in your programs.
- **ACT.** Explore practical yet rigorous methods and tools for evaluating solutions before full implementation and develop plans to implement research-based strategies for program improvement.

**STEM Equity**

Improving access to STEM careers for all students is just as important as improving gender equity across all courses, and we still have a lot to do here. As I described last year, [Hispanics and African Americans are seriously underrepresented in STEM](https://www.ctetrailblazers.org) education programs and consequently in STEM careers. Hispanics and African Americans each make up about six percent of the national STEM workforce, well below their proportions of the total population. Improving the education that these students receive in high school is the first step in addressing this problem.
The same techniques that schools have used to address gender equity are also valuable for addressing equity for Hispanics and African Americans. The very first step is to make sure that teachers, administrators and counselors are reaching out to these students to make direct personal invitations to enroll in STEM courses. Students who show any spark of interest in this field should be encouraged to pursue it and personal contact is the key. Announcements, brochures, posters help set the tone for a program, but students need personal encouragement to take that first step.

However, simple outreach is usually not enough to resolve this issue. Schools may need to conduct serious evaluation of their existing programs successes and failures. The method that NAPE recommends for addressing gender equity also helps with this process. NAPE is engaged in this equity issue as well as in gender equity and will assist schools and colleges with this through their PIPE-STEM program.

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The Changing Face of Virginia Agriculture

Everyone working in CTE knows that we’re not running the same old VocEd programs that were popular in the fifties; but can be hard to get that message out to the public. The agriculture industry has the same sort of marketing problem. Although lots of people don’t know it, agriculture is not the business that it was fifty years ago. The rural countryside is as beautiful now as it was then, but the science and technology keeping it green and productive are new.

Lots of the jobs available in agriculture are new too. Virginia now has over 200 wineries and vineyards that provide jobs for vineyard workers, viticulturists, wine marketers, and wine warehouse supervisors, as well as for all those involved in agritourism — an industry that almost every winery promotes. As this example illustrates, some of the new jobs in agriculture involve working on the land, but many are elsewhere — in science, technology, marketing, distribution, and other arenas. There are many opportunities for employment in agriculture that CTE students should investigate and explore.

The Agriculture Miracle

For hundreds of years, rising productivity has been the plot line of the agriculture story. In the 19th century the majority of Americans worked in on the land. On today’s farms, however, it takes just a few workers, and a lot of very expensive equipment, to plant and harvest huge acreage. According to the USDA:

- In 1970 average farm operators could plant 40 acres of row crops per day, by 2000 they could plant 420 acres per day, and this is expected to double shortly (1);
- Between 1950 and 2000 average corn yields rose from 39 to 153 bushels per acre;
- Each farmer in 2000 produced on average 12 times as much farm output per hour worked as a farmer did in 1950 (2).
Because agriculture has become so much more productive, fewer and fewer people are needed in fields and forests to get the job done. The 1950, national Census counted 6,706,000 farmers, farm managers, laborers and foremen. In 2000, 2,549,000 people worked in these positions, according to estimates from the Bureau of Labor Statistics employment projections group. By 2010, this estimate had fallen to 2,075,000. Virginia has experienced a similar decline. The Virginia Employment Commission's Occupational Employment System estimated that there were 55,385 farm managers and workers in 2000 and 43,444 in 2008.

A Miracle Built on Science and Technology

This miracle of agricultural productivity has been made possible by the increasingly sophisticated application of technology and science. According to agricultural economists at the USDA, total agricultural output has increased steadily since 1948, while, indexed to 1948, total inputs (land, labor, capital, fertilizer, feed seed, and others) have barely changed (3). Vast increases in the sophistication of technology and the science of managing land, water, fertilizer and other inputs have made this possible.

Increased agricultural productivity does not come from science and technology operating in a vacuum. What is really important is the way that their application has increased the sophistication of agricultural practice, which in turn requires the creation of many jobs in fields that support agriculture but do not involve working on the land. According, once again, to the USDA (4), six sets of practices have been particularly important in transforming agriculture over the past several decades:

- **Genetically Engineered Crops** have increased yields largely due to fewer crop losses to pests and to the reduced costs for pest management.
- **Soil Management Practices**, such as crop rotation systems and crop residue management, have improved the fertility of land and provided new ways to control pests, diseases and weeds.
- **Pesticide Use and Management** has changed largely following the introduction of genetically modified crops.
- **Nutrient Use and Management** is improved by more precise understanding of crop requirements, application methods, and timing.
- **Organic Production** has risen in response to popular demand and consumers' willingness to pay a premium for these products.
- **Irrigation** practices have grown more sophisticated, as competition over water rights increased, particularly in the west.
The Impact of Science and Technology on Skills and Jobs in Agriculture

Just as science and technology have driven up productivity, they have also changed the skills that students need to succeed in agriculture and the jobs that will be open to them in the future. Two kinds of change have been important:

- First, as agriculture has become more scientific and technical, those who are working in agricultural production need more and broader skills.
  
  For example, more and more agricultural production workers are going to need to understand robotics, just as manufacturing workers now do. As robots have become more sophisticated and less expensive, more work is being done to develop them for use in agricultural production. As this technology is implemented, workers will need to understand the mechanics of automated equipment as well as viticulture.

- Second, a wide range of off-the-land jobs will be needed in order to support the work that is done on farms and in forests. Developing, producing, marketing, and managing new scientific ideas and new technology requires the introduction of new jobs and the expansion of old ones well outside the arena of traditional production agriculture. These jobs appear in fields as diverse as scientific research, engineering, finance, marketing, manufacturing, and education.

For example, soil scientists have made great progress in the past few decades in understanding soil management. This has had a large impact on the practice of agriculture, and, consequently, farmers have had to develop new skills. However, rigorous soil management involves more than just up-skilled farmers. It requires expanding the production of soil testing equipment and the availability of laboratories and technicians, the development of improved seed varieties, equipment for reduced tillage operations, the preparation of new instructional materials, the retraining of marketing and sales agents, and more.

In fact, almost all American industries have something to contribute to agriculture, and, as such, many of these industries will need workers who have studied and understand the processes of agricultural production. The real estate and mortgage business needs agents who understand farm land and how to value it. Software developers are needed to create the programs that run agricultural robots or help manage farm accounting. High schools, colleges, and universities need the teachers and scientists who will train the next generation of farmers, agricultural robotics technicians, soil scientists, and teachers.

Consequently, as agriculture has become more scientific and technical, the proportion of agriculture workers who are employed in jobs off the land is growing, as is the demand for workers with a higher education.

Social Change Changes Agriculture Too

New employment opportunities and new skill requirements in agriculture don't just come from scientific and technological innovation. They also emerge out of the broader social environment in which
agriculture is located. Potential for social change arise in many places, but here are a few that contribute particularly to agriculture.

Social trends — Many social trends have impacted agriculture over years. Three in particular are prominent now.

- **Pet culture.** Recent years have seen increases in the number of pets people have and the interest they devote to them. This has lead to significant employment growth in jobs related to pet care. Veterinarians and Veterinary techs are among the nation's fastest growing jobs.

- **Gardening, landscaping and turf management.** American's interest in landscaping has been growing, and employment in this arena has increased. The number of jobs for landscaping and grounds keeping workers is projected to grow by 21% through 2020, much faster than the national average. The BLS doesn't collect specific data on horticulture and related jobs, such as those businesses that provide plants, products, and equipment for landscaping, but they too are reputed to be in demand.

- **Agritourism.** Consumers are more interested than ever before in outdoor experiences that combine well with agriculture. Virginia's vineyards succeed not just because of the quality of their product, but because they are able to combine production with tourism, bringing customers to the vineyards for tastings, weddings, and a range of other events. Having learned to appreciate the public's interest in rural activities has made agriculture more profitable across Virginia. The Bureau of Labor Statistics doesn't collect data on agritourism jobs, but the USDA's 2012 Census of Agriculture, which is currently underway, should give us a better understanding of the economic impact of agritourism in Virginia.

Economic trends — Agriculture is immediately affected by world and national economic trends. To mention just one, American's growing need to cut dependence on imported energy has spurred interest in the ways that agriculture can use less energy through increased efficiency. It has also spurred interest in the ways that agriculture can produce energy, by biomass (plants that can be converted to energy) and by combining crop farming with wind farming.

Demographic trends — Finally, and perhaps most importantly, world demographic trends are set to transform American agriculture. The world population is now about seven billion and growing. The potential for phenomenal growth remains, but even the moderate projections for future growth will require greatly expanding agricultural productivity. America, with our vast expanses of land and scientific capacity, will have a huge role to play in feeding the world's future population.
So, Where Will the Agriculture Jobs of the Future Be?

Working with the USDA, researchers from Purdue University have analyzed employment opportunities for workers with a bachelor's or higher degree in the fields of food, renewable energy and the environment (5). They estimate that there will be about 54,000 job openings each year, more than enough to employ the 29,300 students expected to earn degrees from colleges of agriculture and life sciences, forestry and natural resources, and veterinary medicine. Other positions will easily be filled by students graduating from allied disciplines, including biological sciences, engineering, health sciences, business, and communication. However, agriculture employers have expressed a preference for the more specific agriculture/natural resources degree programs. Students who prepare for and complete these programs should have an edge in the job market.
Jobs for college graduates fall into four main career arenas — Management and Business; Science and Engineering; Agriculture and Forestry Production; and Education, Communication, and Governmental Services — and researchers have highlighted priority occupations in each arena.

While we don’t have data specifically on Virginia employment in the priority occupations listed below, we do know that there are opportunities here in most of these fields. In addition, new employment projections for Virginia based on the BLS occupation list are due out shortly. They will not have the detail on the occupations below, but will give estimates and projections for about 20 basic occupations including Farm Managers, Agricultural Inspectors, Agricultural Workers, Logging Workers, Farm and Home Management Advisors, Agricultural Engineers, Landscaping and Groundskeeping Workers, and more.

### Employment Opportunities Nationwide

<table>
<thead>
<tr>
<th>Management and Business</th>
<th>About 25,700 average annual job openings</th>
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</thead>
<tbody>
<tr>
<td><strong>Priority Occupations</strong></td>
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<tr>
<td>Agricultural Sales and Service Representative</td>
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<tr>
<td>Environmental Compliance Specialist</td>
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<tr>
<td>Financial Planner and Manager</td>
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<td>Food Marketing Manager</td>
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<td>Forest Products Manager</td>
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<td>Grain Merchandiser</td>
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<td>Green Industry Products Manager</td>
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<tr>
<td>Human Resources Specialist</td>
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<td>Land Use Planner</td>
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<td>Resource and Alternative Energy Economist</td>
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<table>
<thead>
<tr>
<th>Science and Engineering</th>
<th>About 14,500 average annual job openings</th>
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<tbody>
<tr>
<td><strong>Priority Occupations</strong></td>
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<tr>
<td>Animal Pathologist</td>
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<tr>
<td>Biological Engineer</td>
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<td>Biostatistician</td>
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<td>Environmental Scientist</td>
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<td>Food Scientist</td>
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<td>Human Nutritionist</td>
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<td>Nanotechnologist</td>
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<td>Plant Geneticist and Breeder</td>
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<tr>
<td>Public Practice Veterinarian</td>
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<tr>
<td>Renewable Energy Engineer</td>
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### Agriculture Job Estimates

The Bureau of Labor Statistics (BLS) employment data usually used at Trailblazers is not detailed enough for agriculture. However, researchers at Purdue University have created estimates, shown below, for job openings for individuals with a bachelor’s degree or higher in the fields of Food, Renewable Energy, and the Environment. These estimates were based on the BLS occupational employment data for 2008 with projections to 2018. To produce these projections for agriculture, report authors and consultants:

—Selected occupations expected to require college graduates with expertise to work in the food, renewable energy, and environment employment sectors;

—Determined a percentage of the average annual job openings that would require graduates having expertise in these areas; and

—Assigned percentages of the annual employment openings in each occupation to the four agriculture occupation clusters.
Employment Opportunities Nationwide

<table>
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<tr>
<th>Agricultural and Forestry Production</th>
<th>Education, Communication, &amp; Governmental Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>About 7,900 average annual job openings</td>
<td>About 6,200 average annual job openings</td>
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**Priority Occupations**

Agricultural and Forestry Production:
- Crop Management Consultant
- Food Animal Veterinarian
- Herd Manager
- Land Use Manager
- Poultry Production Manager
- Precision Agriculture Specialist
- Organic Agriculture Entrepreneur
- Renewable Energy Crop Producer
- Restoration Forester
- Seed Producer

Education, Communication, & Governmental Services:
- Climate Change Analyst
- Computer Graphics Technologist
- Distance Education Specialist
- Ecotourism Specialist
- Electronic Information Architect
- Food Safety Information Specialist
- Health Communicator
- Natural Resources Conservation Specialist
- Rural Development Specialist
- Science Communicator

**Sources:**
3. Ibid. Page 2.

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**Virginia's Growing Latino Student Population is Key to the Future of CTE**

The number of Latino/Hispanic students taking Virginia CTE courses has been growing and will continue to grow because the number of Latino students in Virginia is rising. In many school divisions, the percentage of Latino students enrolled in kindergarten today is double the percentage now in high school, and in a few years, these young students will be the right age for middle school and high school CTE classes. In order to maintain vibrant programs, CTE teachers and administrators will have to continue reaching out to and recruiting these young Latino students.
Connecting with this population, many of whom are immigrants or the children of immigrants, may take more work and more outreach than has traditionally been needed to reach multi-generation Americans. Students whose families have been here for a long time often grow up knowing about CTE and having positive expectations of our courses and programs. In many cases, students’ parents, aunts and uncles, and even grandparents completed CTE programs, so the whole family knows what we have to offer. But many immigrant families are not familiar with CTE and don’t know how to connect their children with our programs. If we don’t reach out to Latino students and their families, if we miss out on recruiting from Virginia’s fastest-growing student population, CTE enrollments are unlikely to grow and may even begin to decline.

**Latino/Hispanic Student Enrollment Trends**

Between 2003 and 2011, Latino students made up most of the growth in enrollment in Virginia public schools. Total school enrollment grew by less than three percent between 2003 and 2011, but the number of Latino students grew by 102 percent. In comparison, the number of Asian students grew by 49% and the number of White and Black students grew less than one percent.

Given the age distribution of Latino students in Virginia’s schools, Latino enrollment in our middle and high schools is likely to increase rapidly during the coming decade. The percentage of Latino high school seniors more than doubled from 4.5% in 2003 to 9.4% in 2011. This number is likely to double again during the next decade. In the fall of 2011, Latino students made up 15% of kindergarten enroll-
ment, and there are similar numbers of Latino preschoolers who will follow them into school. As these students progress through the grades, the Latino population in middle and high schools will rise.

Where are Virginia's Latino/Hispanic Students?

Latino students are no longer largely concentrated in Northern Virginia; growing numbers of students are found in divisions across the state. In 2003, Latino students made up more than 8% of total enrollment in only 13 school districts — mostly in Northern Virginia, but also including Accomack County and the Cities of Galax, Harrisonburg, and Winchester. By 2011, the number of school systems whose student body was more than 8 percent Latino had increased to 32 and these could be found in most parts of the state.

Source: Va Department of Education, Fall Membership

Students Face Challenges, but We Should Anticipate Success

The social and economic characteristics of Virginia’s Latino/Hispanic population presents some obvious challenges to teachers and administrators. Many students have limited English and come from households in poverty and with limited educational backgrounds. All of these factors make it more dif-

Source: Va Department of Education, Fall Membership
difficult for students to succeed in school and can increase the likelihood that they will drop out. However, it is also evident both that students improve the longer they are here and that American born Latinos have fewer risk factors that immigrants. In other words, we should anticipate successful outcomes for most students and anticipate that Career and Technical Education programs, known for the benefits they bring at-risk students, can be a major contributor to this success.

Data from the Virginia Department of Education shows the percentage of Virginia's Latino students evaluated as Limited English Proficient. The majority of Latino students entering kindergarten have limited English, but this falls steadily through school years, to 25 percent in students' senior year.

Information from the Census Bureau also suggests that Virginia's Latino immigrants are learning English. Just 21 percent of Spanish-speaking households reported that no "over age 14" speaks English very well. (Table S1602 2011 1-year survey). Additionally, Virginia's Spanish-speaking native born and naturalized citizens report better
English language skills than non-citizens. It is reasonable to expect that, like other immigrants before them, Virginia's Latinos will learn English, and this will help them and their children improve their levels of success in school and at work.

Many of today's Latino students struggle in Virginia schools: data from the Virginia Department of Education shows that they are less likely than others to graduate on time. Additionally, national data shows their dropout rate is higher than other race and ethnic groups. In 2010, the national dropout rate for Hispanics was 15 percent, compared to 8 percent for Black students, 5 percent for White students, and 4 percent for Asian students. Huge improvements have been made in the Latino dropout rate however; twenty years ago the drop out rate was more than twice that of 2010, at 32 percent.

With educational attainment, as with language, however, there is reason for optimism that second and third generation Latinos will be as successful in school as other Americans. In fact, today's American-born Latinos of working age have rates of educational attainment that are almost identical to those of non-Latinos. This is a stark contrast to non-citizens, 78% of whom have only a high school diploma or less.

The Pew Hispanic Center Survey of Students and Families

A recent report from the Pew Research Center sheds light on Latino/Hispanic students and their achievement levels. According to their nationwide survey, 89% of young Latino adults say that college education is important for success in life compared to 84% of all young adults. Despite their belief in the value of education, only 48% of young Latino adults say they plan to get a college degree.

According to Pew:

*The biggest reason for the gap between the high value Latinos place on education and their more modest aspirations to finish college appears to come from financial pressure to support a family, the survey finds. Nearly three-quarters (74%) of all 16- to 25-year-old survey respondents who cut their education short during or right after high school say they did so because they had to support their family.*

The gap between educational aspirations and attainment is much higher for young Latino immigrants than for those who were born here. According to the Pew report, fewer than 29 percent of Latino immigrants ages 18 to 25 say they plan to get a bachelor's degree or more, compared to 60% of native-born young Latinos. The foreign born struggle to complete their education in part because they are much
more likely than native-born Latino youths to be supporting or helping to support a family, either in the U.S. or in their native country. In short, young immigrant Latinos appear to have financial commitments that limit their ability to pursue more education, even though they see a college education as important for success in life.

If today's young immigrants follow the trajectory of previous immigrant generations, they too will become more successful over time. As this generation gains a foothold in the American economy, and has fewer family obligations here and overseas, their American-born children will have the liberty to pursue and succeed in higher education. This happy scenario is most likely, however, if the educators remain confident that it is possible and if young immigrants have the benefit of programs, such as many of CTE's skilled trades and manufacturing technology programs, that help them move them quickly into the paying jobs that they need while maintaining the option of returning to postsecondary education when they can afford to do so.

Opportunities — Building our Enrollment and Serving a Population where CTE's Success Rate Is Proven

The rapid growth of Virginia's Latino/Hispanic student population presents opportunity as well as challenge for Career and Technical Education. Without the increase in the number of Latino students between 2003 and 2011, enrollment in Virginia's public schools would have risen much more slowly than the overall population, a troubling statistic for a state with an aging population.

In some rural districts, the growth in the number of Latino students is actually reversing past trends of stagnant or declining enrollment. In Accomack County, for example, public school enrollment fell by 5% between 2003 and 2011, but without the growth in the number of Latino students, enrollment would have fallen by 13% during the same period. Similarly, Harrisonburg City Schools’ enrollment grew by more 25% from 2003-2011, but without the growth in the number of Latino students, the City’s schools would have only grown by 2%. The same pattern applies to CTE programs in many divisions — without recruiting from Virginia's fastest-growing student population, enrollments will be stable or even fall, and it will be difficult in these tough budgetary times to justify programs or to afford the equipment needed to maintain them.

Recruiting Latino students also gives CTE the opportunity to play a large part in the future of America's fastest growing population, and thus in the future of our whole country. Many of these students are new immigrants or the children of new immigrants and have risk factors for dropping out of school. CTE is one of the most effective educational programs for helping underachieving and at-risk students. Studies have shown that CTE — combined with rigorous academic courses, especially in Career Academies — increases the likelihood of graduating from high school and enrolling in postsecondary courses, particularly for minority and low income students. As a result, CTE programs in a number of states, such as California (1), focus on recruiting minority and low income students. Additionally, CTE’s focus on career preparation makes education relevant to students’ own goals for success, and this
has been shown to be particularly important for at-risk students. Finally, CTE’s effort to connect students with role models and practical experience in the business community is especially valuable for at-risk students who have fewer opportunities to build these connections on their own (2).


2. Association for Career and Technical Education. *CTE’s Role in Urban Education*. ACTE Issue brief. August