



Changing  
the Equation:  
An Analysis of  
Indiana  
Secondary CTE  
Non-Traditional  
Participation and  
Completion

2016

*Indiana Department of  
Education*



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## Executive Summary

Federal funding for Career and Technical Education (CTE) programs includes the stipulation that schools seek to reduce gender stereotypes in career preparation programs for occupations employing less than 25% of one gender. To reach this goal, schools and states must set targets, and annually report progress in increasing the percentage of “non-traditional” students who enroll and complete CTE programs.

That focus stems from the fact that a woman’s median annual earnings in the United States are 79% of a man’s. This is a wage disparity that widens as level of education and occupational incomes rise. The requirement also seeks to provide wider opportunities for both men and women who may feel their occupational options are limited by gender stereotypes.

Indiana’s annual median wage ratio between women and men is 75% - meaning women in Indiana earn, on average, 75% of what a male earns - placing the state 39<sup>th</sup> among the 50 states. Conversely, the most recent Indiana CTE non-traditional student data shows that a substantially large percentage (68.6%) of Hoosier girls are enrolling in CTE courses that are non-traditional for females – such as engineering, agriculture, and business – but only 2.7% of male CTE students are enrolled in courses non-traditional for males – such as early childhood education and dental careers.

The challenge of meeting the non-traditional enrollment and completion targets is difficult. Only 18 of Indiana’s 48 CTE districts reached their non-traditional goals in 2015 and only 17 of the 50 states have both male and female non-traditional enrollments above the 25<sup>th</sup> percentile.

Between February and March 2016, more than 800 Indiana CTE students responded to an online survey designed for this study. The survey included multiple questions about non-traditional CTE courses. A summary of the findings includes the following:

- Almost one third (29.6%) of all CTE students said they would not consider enrolling in a course that was non-traditional for their gender
- The top reasons given for not enrolling in a non-traditional CTE course or program were that students preferred courses with a mix of genders or would feel uncomfortable in being in a non-traditional class
- The majority who indicated it did not matter if the course included more students of the opposite gender stated that an imbalance of genders was “no big deal” and would not deter them from their career goals
- Students suggested they may think more favorably about enrolling in a non-traditional CTE course or program if they had more information about the course and additional details about class expectations
- When asked for advice, students suggested a variety of changes:
  - Provide more information about CTE programs
  - Ensure classes are open and welcoming to all students
  - Consider teacher or counselor supports

- Advertise/market the courses/programs better and use non-traditional students and teachers to help with promotions
- Letting students “try out” the class before enrolling
- Be aware of and keep watch over the classroom environment (to prevent bullying and harassment)

In a more targeted survey, more than 300 Indiana students enrolled in non-traditional CTE courses in 2016 were asked to answer a set of survey questions related to their non-traditional enrollment experiences. From the survey results:

- 6.9% of non-traditional student enrollees admitted they had some hesitations when registering for a non-traditional CTE program, stating they worried about discrimination or being made fun of
- A majority said the experience of being in a non-traditional CTE program was identical to being in any other program, awkward at first but very positive overall
- The comments from those experiencing challenges in a non-traditional program ranged from feeling scared to having to prove themselves
- Several female students called out males in their non-traditional courses for making derogatory comments, acting immature, and questioning their abilities
- Many said family members or friends questioned their decision to enroll in a non-traditional course but most responded back that they were taking the courses anyway because it matched or aligned to their career interests and goals.

In a third survey for this report, Indiana’s Area CTE Directors were asked a series of questions. The questions focused on sharing “best practice” ideas with others for improving CTE non-traditional student enrollment and completion.

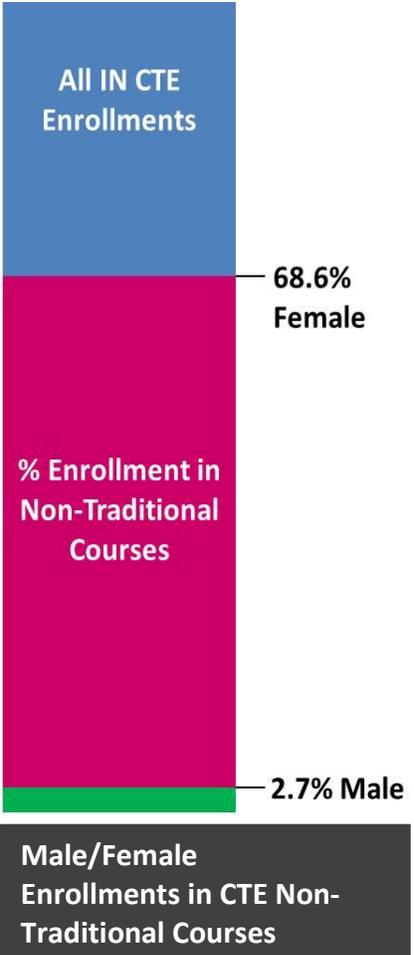
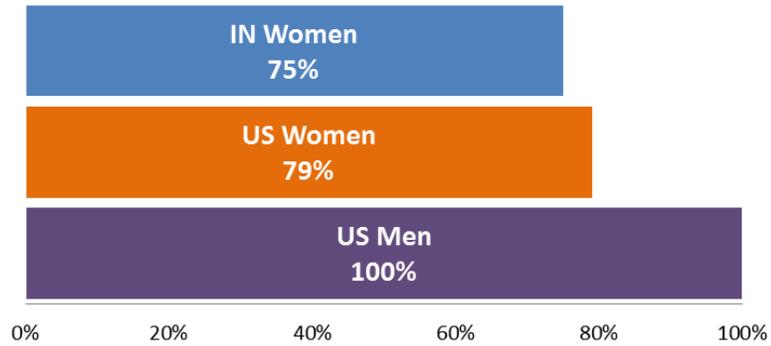


While approximately 30% responded they have experienced little success in changing non-traditional enrollment or completion percentages, others shared successful strategies that ranged from providing intentional support to students to sponsoring summer camps or targeted workshops and career fairs.

In the final pages of the report, suggestions are offered that are based on a review of the research literature. Plus, five concluding recommendations are detailed with the intent of helping Indiana CTE Districts meet their non-traditional data targets and improving opportunities for students. The recommendations are:

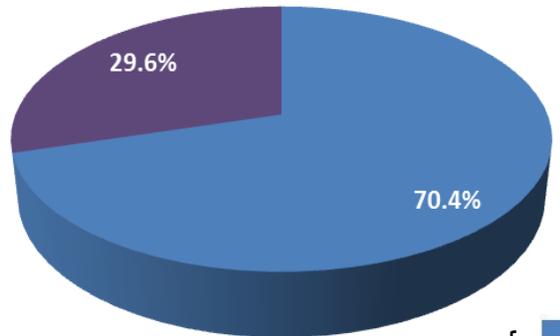
1. Be data intentional
2. Brainstorm creative recruitment and enrollment strategies
3. Proactively reach out to students expressing interest
4. Find and remove potential barriers
5. Provide supports for non-traditional students

**US Median Annual Earnings of Women as a % of Men's Median Annual Earnings**



**% of All IN CTE Students**

- Would consider enrolling in a non-traditional course
- Would NOT consider enrolling in a non-traditional course



**Indiana CTE Student Suggestions of Ways to Boost Enrollment in Non-Traditional CTE Courses**

- No need to do anything different
- Provide more info about the class/program
- Ensure classes are welcoming
- Provide extra support/support groups
- Use non-traditional teachers/students to promote
- Let students try out the class first
- Address the school/classroom environment

**30% Little or No Effect**

- 70%**
- Intentional student supports
  - Targeted non-traditional workshops & programs
  - Specialty summer camps
  - Non-traditional career fairs

**What CTE Directors say is Effective**



## Introduction

For more than a decade, every state in the nation has been required to collect and submit data on the number and percent of secondary students who enroll in and complete Career and Technical Education (CTE) courses related to an occupation that is non-traditional for their gender.

A 'non-traditional' CTE student is considered one who is pursuing a career or technical education program related to an occupation which employs less than 25% of their gender. In the 2014-15 school year in Indiana, for example, agriculture and engineering courses were considered non-traditional for female students and cosmetology and early childhood education programs were deemed non-traditional for males.

Federal legislative mandates Title IX and Perkins IV (which is specifically focused on CTE programs) explicitly outline equity goals that are aimed at reversing the trend of occupational sex segregation, closing the gender wage gap, and leading to equitable educational and vocational training access.<sup>1</sup> Federal legislation encourages equal access for males and females in both educational programs and courses and has a requirement for data collection to examine gender-specific outcomes.

Despite the federal mandate, only 17 of 50 states and the District of Columbia have CTE non-traditional course and program participation rates above 25% for both males and females. The percentages are especially low for males. Female non-traditional participation rates are consistently higher across the nation.<sup>2</sup>

In Indiana, non-traditional CTE student participation – defined as the percentage of all CTE students in the state who enroll in at least one course that is non-traditional for their gender – is 68.6% for females but only 2.7% for males based on the latest state data. The combined percentage - 27.9% - is above the 25% desired level but is short of the federally agreed upon target percentage for the state. Likewise, 30 of the state's 48 CTE districts, failed to meet their non-traditional enrollment according to 2015 data.<sup>3</sup>

## Why Focus on Non-Traditional Education

Education has long been considered an equalizer in the gender equity discussion but research – like the figures listed above – continues to show wide equity gaps. While post-secondary degree attainment among women is at its highest level ever,<sup>4</sup> secondary education programs such as career and technical education (CTE) remain highly gender segregated despite years of reforms aimed at bringing about greater equity.

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<sup>1</sup> National Association of State Directors of Career Technical Education Consortium, Learning that works!

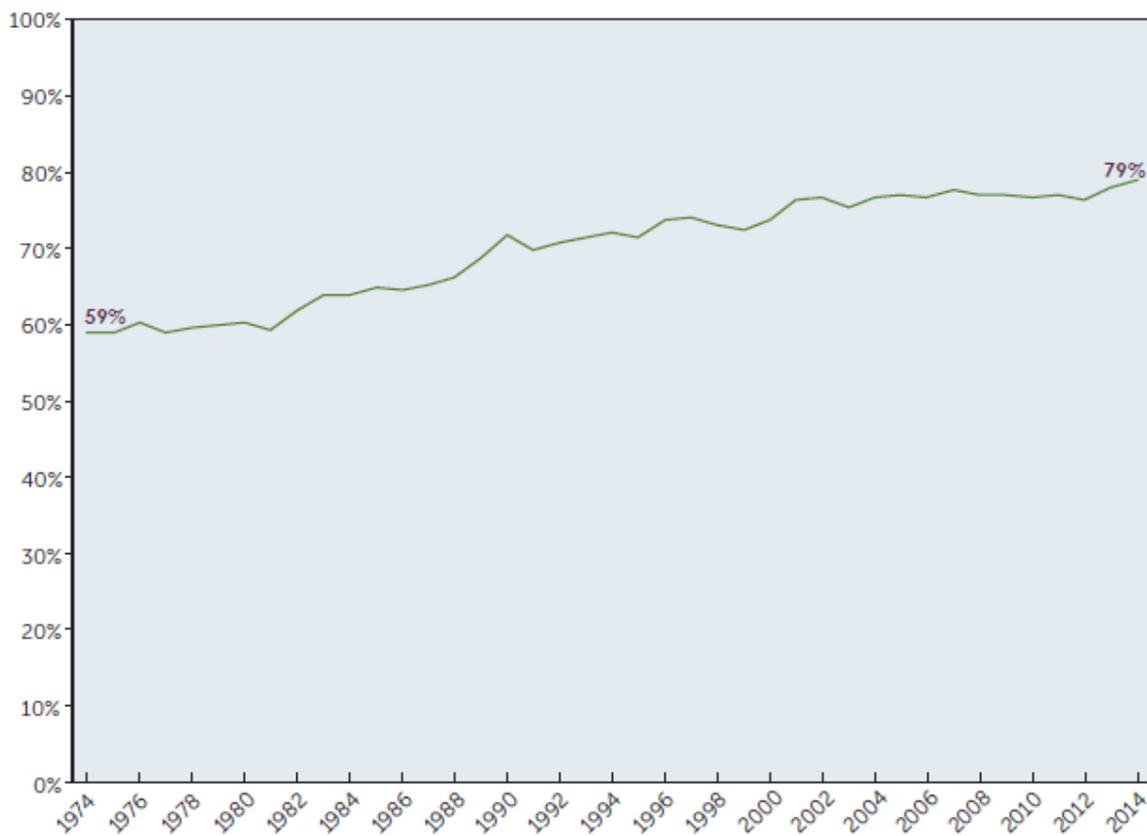
<sup>2</sup> From Perkins Data Explorer, Perkins Web Portal, <https://perkins.ed.gov/pims/DataExplorer>

<sup>3</sup> InTERS data from Indiana Department of Workforce Development, 2014-15 school year

<sup>4</sup> Beyond the Skills Gap: Making Education Work for Students, Employers, and Communities, link to full report <https://www.luminafoundation.org/files/resources/beyond-the-skills-gap.pdf>-[www.newamerica.org](http://www.newamerica.org)

An Institute for Women's Policy research report shows women and girls still missing from career and technical education in high paying fields. Women and girls make up fewer than one in four students in STEM (Science, Technology, Engineering, & Math) focused CTE programs, fewer than one in six students in manufacturing and architecture and construction-related CTE programs, and fewer than one in ten students in transportation, distribution, and logistics CTE programs. Yet, women and girls comprise more than 70 percent of students at the secondary level enrolled in CTE programs in "Human Services," preparing them for lower-paying positions in childcare and cosmetology.<sup>4</sup>

Chart A. Women's Median Annual Earnings as a Percentage of Men's Median Annual Earnings for Full-Time, Year-Round Workers



Wide disparities in wages between men and women are another reason for the continued focus on non-traditional instruction. Despite significant gains over the years, the pay gap between men and women remains stark.

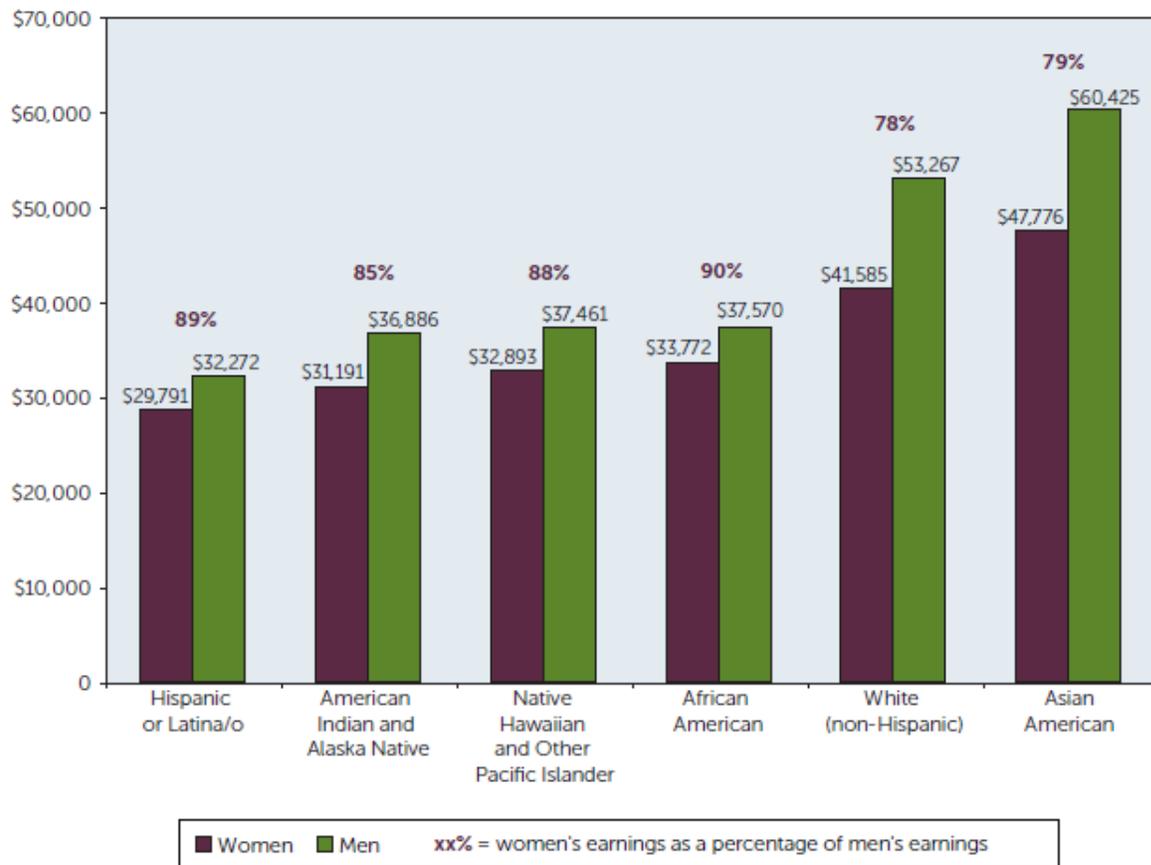
Chart A shows that on average, women in the U.S. earn 79% of what a male earns in the same occupation.<sup>5</sup>

<sup>5</sup> The Simple Truth About the Gender Pay Gap, Fall 2015 Edition, American Association of University Women (AAUW), page 3

In Indiana, the earnings ratio for women compared to men is 75% - the 11<sup>th</sup> worst ratio among the 50 states and the District of Columbia – with the median annual salary comparison of \$46,273 for a male compared to \$34,846 for a female.

Strikingly, the wage gap becomes more pronounced among older working adults with more education, those earning higher median incomes, and among white (non-Hispanic) and Asian-American individuals (Chart B).

Chart B. Median Annual Earnings by Race/Ethnicity and Gender, 2014



From The Simple Truth About the Gender Pay Gap, Fall 2015 Edition, American Association of University Women (AAUW)

As of 2013, women are making strides to catch up to men in the physician/surgeon career areas, making up approximately 35% of these careers. Despite a few gains, statistics still state a bleak outlook showing that only 5.4% of welders in the United States are female and out of the approximately 2.6 million registered nurses in the United States, fewer than 8% are male.<sup>6</sup>

<sup>6</sup> Olson, J.R. (May 2013). Breaking Barriers: Breaking the Gender Barrier. ACTE Techniques magazine article found at [http://www.nxtbook.com/ygsreprints/ACTE/g33254\\_acte\\_techniques\\_may2013/#/16](http://www.nxtbook.com/ygsreprints/ACTE/g33254_acte_techniques_may2013/#/16)

Research has shown numerous advantages of non-traditional careers to individuals, to businesses, to society, and to the economy. Among the advantages are higher wages and greater career fulfillment because the work connects directly to students' interests and not just gender norms.

Non-traditional careers have been shown to yield benefits for both males and females, giving females the opportunity to earn higher salaries<sup>7</sup> and males the opportunity to find employment in an increasingly crowded job market.<sup>8</sup>

Members of both sexes have plenty to gain from a more gender-balanced workforce, but turning the tide of decades of segregation is much easier said than done.

*"Many state and local CTE directors count the non-traditional accountability measure and the accompanying provisions in the Perkins Act among the key reasons for their state's success in improving students' participation in and completion of nontraditional CTE programs."*

*- Mimi Lufkin, Chief Executive Officer of the National Alliance for Partnerships in Equity*

## Changing the Equation

What keeps females and males from considering non-traditional career paths? According to the research, gender role expectations play the predominant factor in the career choices of students. Based on previous studies, males show a greater interest in jobs considered more masculine and females show a greater interest in careers considered feminine.

Human growth and development research further reinforces this understanding showing that children as young as 6-8 years of age begin to eliminate career options because they are the "wrong" sex type. By adolescence, students have an extremely strong sense of expectations about the world of work that are connected to gender stereotypes.<sup>9</sup>

The literature repeatedly acknowledges other variables that influence career decisions and connect to factors related to CTE and non-traditional options such as:

- Socioeconomic status of family
- Level of educational attainment of parents

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<sup>7</sup> Hogue, T., Perkins, D., Clark, R., Bergstrum, A., Slinski, M. (1995). Collaboration framework: addressing community capacity. Columbus, OK: National Network for Collaboration.

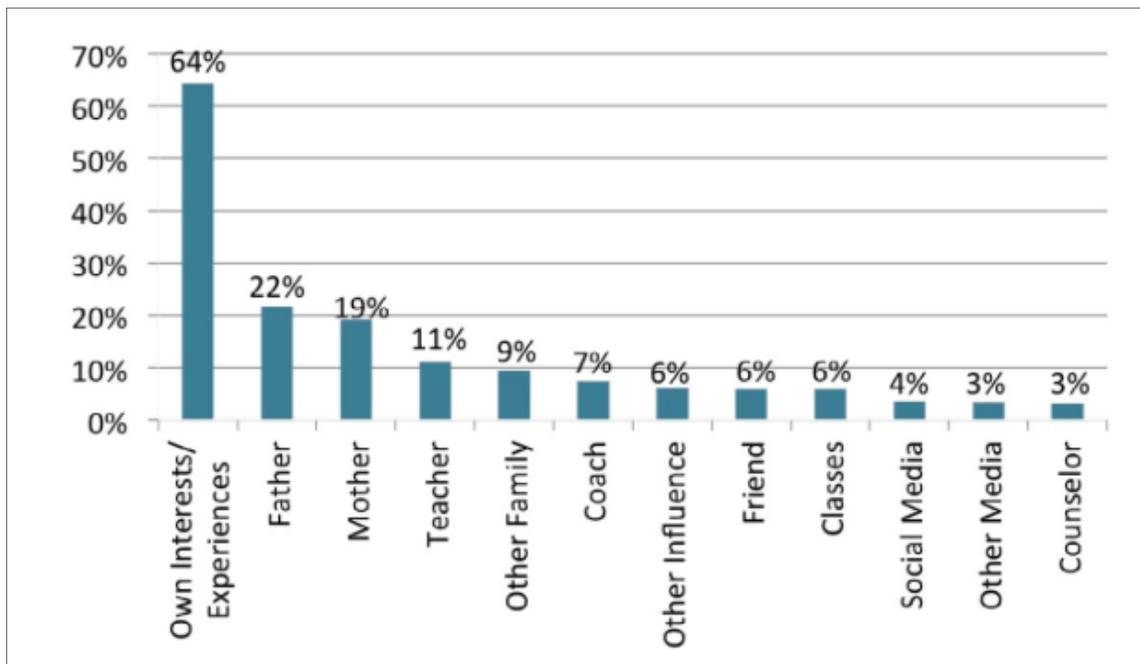
<sup>8</sup> Dodson, T., & Borders, L. D. (2006). Men in traditional and nontraditional careers: gender role attitudes, gender role conflict, and job satisfaction. *The Career Development Quarterly*, 54.

<sup>9</sup> Olson, J.R. (May 2013). Breaking Barriers: Breaking the Gender Barrier. ACTE Techniques magazine article found at [http://www.nxtbook.com/ygsreprints/ACTE/g33254\\_acte\\_techniques\\_may2013/#/16](http://www.nxtbook.com/ygsreprints/ACTE/g33254_acte_techniques_may2013/#/16)

- Lack of parents’ knowledge about non-traditional CTE opportunities
- Occupation of parents
- Students’ personal occupational interest and career values
- Students’ internalization of sex-stereotyped roles
- Peer pressure to avoid non-traditional CTE courses
- Societal pressure to avoid non-traditional CTE courses;
- Students’ hesitancy to be “the only” in a course or non-traditional CTE program

Other factors influencing students’ career decisions include personal interest and parental input, which rank highest in a study titled, *Attracting the Next Generation Workforce: The Role of Career and Technical Education*.<sup>10</sup> Social media, media in general, and school counselors were ranked as the lowest levels of influence according to the report (Chart C).

Chart C. Influences on Future Career Pathway Selection



While national research can be instructive, a more detailed state-specific study was requested by the state of Indiana to examine what Indiana students and the state’s Career and Technical Education instructors and leaders believe are the reasons for the gender disparities. Also the intent was to collect successful ideas, strategies, and resources that could be shared.

With funding from the Carl D. Perkins Act of 2006, Fleck Education was contracted by the

<sup>10</sup> Manufacturing Institute, SkillsUSA & Educational Research Center of America. (2015). *Attracting the next generation workforce: The role of career and technical education*. Retrieved from [http://www.themanufacturinginstitute.org/News-Articles/2015/10/~/\\_/media/313BCA4C3721444CA8C48F7304F32027.ashx](http://www.themanufacturinginstitute.org/News-Articles/2015/10/~/_/media/313BCA4C3721444CA8C48F7304F32027.ashx)

Indiana Department of Education to conduct this study of the CTE non-traditional student enrollment and completion landscape in Indiana.

The following pages provide a summary of the research findings that resulted from this study including reactions from two statewide student surveys – conducted between February and March 2016 – and from a third survey of Indiana’s Area CTE Directors released during the same time frame to assess:

- What CTE students – including non-traditional students – say are the challenges, and possible solutions, to the non-traditional question, and
- What Indiana’s CTE Directors have to say about what has worked and not worked when addressing the challenges of a non-traditional program

In the final pages, the report summarizes what appears to be working and provides five recommendations for supporting the work of schools and communities as they strive to narrow the gaps between genders in the area of CTE instruction and skills development.

## Part I. What Indiana’s CTE Students Say about Non-Traditional Education

Over the course of two months in spring 2016, approximately 865 Indiana high school students responded to a nine-question survey about non-traditional CTE education (see survey in Appendix A). Students were selected by CTE directors and instructors from CTE districts around the state and represented those enrolled in traditional and non-traditional CTE courses.

Male and female participation in the survey was even with 46.2% of respondents (400 students) identifying as female, 45.7% as male (396 students), and 8.1% (70 students) not identifying their gender.

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### Would You Enroll in a Non-Traditional Course?

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A wide majority of students, (70.4%), indicated they would consider enrolling in a CTE course in which a majority of the students were of the opposite gender (Chart D).

Among the 29.6% who replied they would not enroll in a course with a majority of the opposite gender, a slight majority (48.0%) were male compared to female (41.3%).

Common responses among students who said they would enroll in a CTE course with a majority of the opposite gender were grouped into the following categories:

#### IT DOESN'T BOTHER ME/I WOULDN'T CARE/GENDER DOESN'T MATTER

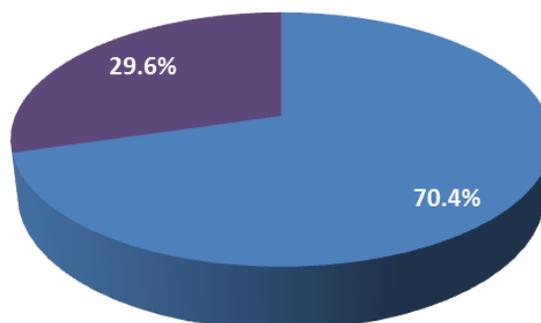
- “If you're interested in a course it shouldn't matter what the majority gender is”
- “I wouldn't care who was in the class as long as I am being educated”
- “If I would like to take the class I will take it for educational purposes regardless of the majority gender”
- “If I want to take that class if it interests me then I'd take it”
- “It should not matter if the majority is all male or all female. If you want to do that program, you should do it”
- “I don't think that I should limit myself from learning opportunities based off of who I am as a minority in a certain class”

#### I WON'T LET GENDER DETER ME FROM AN AREA I'M INTERESTED IN

- “I intend to take any course that interests me that would aid me in pursuit of the career that I would like to obtain”
- “If it better's for my career then I don't care what gender they are”
- “I do not care about the amount of girl, or boys, it does not matter to me”

Chart D. Enrollment Considerations

- Would consider enrolling in a non-traditional course
- Would NOT consider enrolling in a non-traditional course



- “You choose what you like and if that's what you like why not? Who cares what anybody else thinks”
- “I am not going to let class based on traditional for guys stop me from taking a class”
- “If it's something I'm interested in, then I'm going to take it for my own benefit whether or not one gender is more of a majority than the other”

**IT WOULD CHALLENGE ME TO DO BETTER**

- “If anything, I believe that being of the minority may help me succeed by pushing me to do well against the odds”
- “It would help me challenge myself and kind of [make me] be the one to stand up for my gender”
- “I am a female in a male-dominated engineering class. I am the only female in a class of 13 other males. I would take more of these classes if I could”

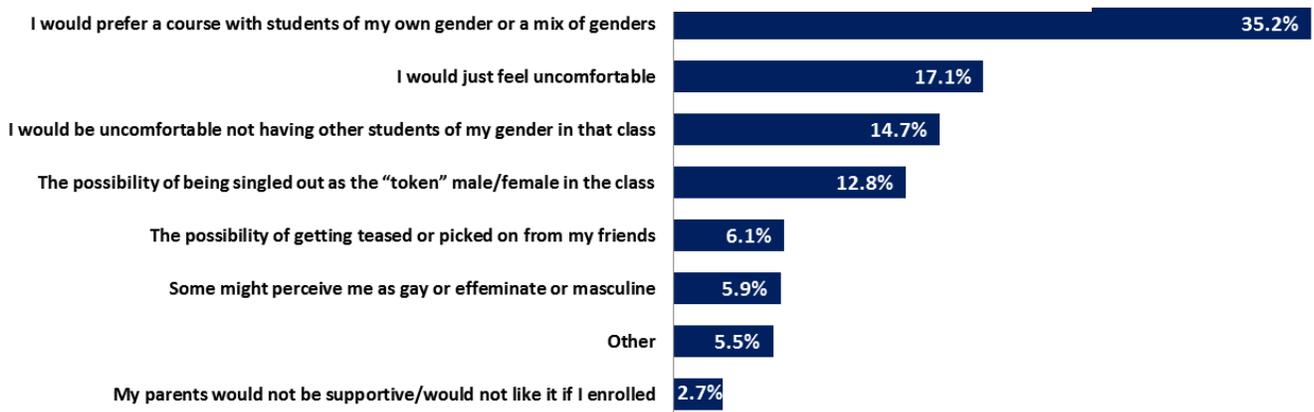
*“It should not matter if the majority is all male or all female. If you want to do that program, you should do it.”*

**IT’S NO BIG DEAL/DON’T MIND/WHO CARES**

- “I don’t mind”
- “I don't mind being around boys”
- “I don't mind being in a class full of just one gender”
- “I personally feel that it wouldn't be a problem being in a class with one gender. I would be completely comfortable with it because it is what I am passionate about”
- “I don’t believe that your gender shouldn’t define what your capable of”
- “Who cares if I want to do something I'll do it”

Students who indicated they would not choose a CTE course with a majority of students of the opposite gender were given seven forced-choice answers from which to choose (allowing for multiple responses). The overwhelming majority of students (35.2%) chose the answer, “I would prefer a course with students of my own gender or a mix of genders” with the second highest percentage (17.1%) answering, “I would just feel uncomfortable” (Chart E).

**Chart E. Reasons Students Do Not Enroll in a Non-Traditional Course**



More telling are the 12.8% of responses that indicated the reason for not selecting a course with a majority of the opposite gender is, “The possibility of being singled out as the “token” male/female in the class,” followed by 6.1% who listed, “The possibility of getting teased or picked on from my friends,” and 5.9% who indicated, “Some might perceive me as gay or effeminate or masculine,” as their reason for not enrolling.<sup>11</sup>

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## What Would Help You Consider a Non-Traditional CTE Course?

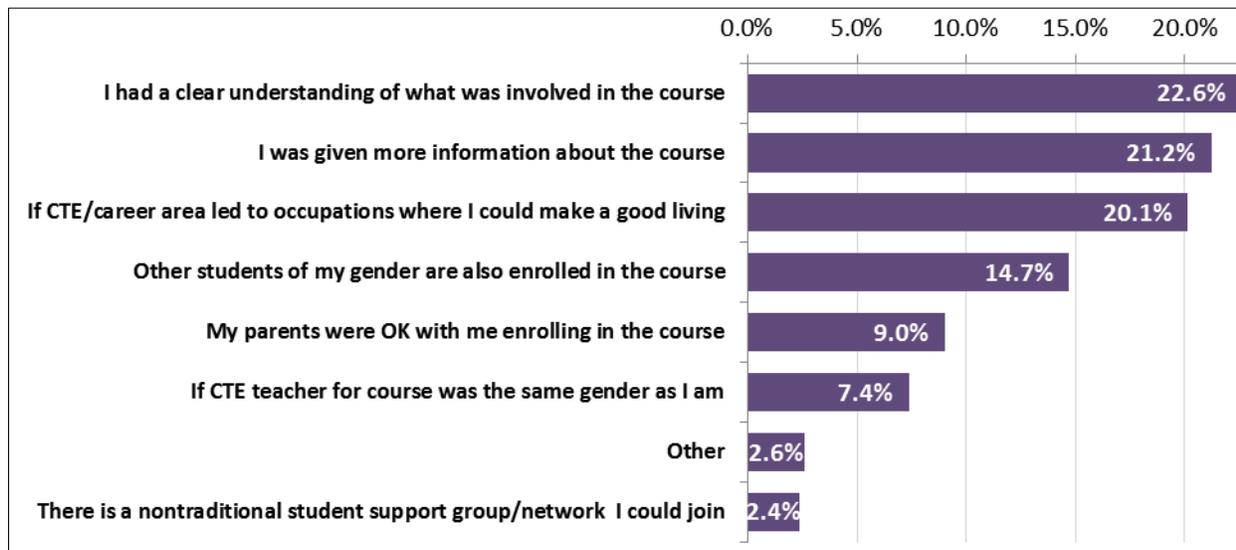
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Three primary factors were listed by a majority of students as being helpful when considering enrolling in a non-traditional CTE course. As indicated in Chart F the three predominant factors include:

- “I had a clear understanding of what was involved in the course (expectations were clear)”
- “I was given more information about the course”
- “If the CTE/career area led to occupations where I could make a good living”

The desire for more detail and a clearer understanding of what is involved in CTE courses and programs is not only indicated here but also appears frequently in comments expressed later in the survey regarding what changes would be most helpful.

Chart F. Factors Students Consider When Selecting Courses



The survey also revealed that 14.7% of students said having a student of the same gender in the course would be beneficial and 9.0% said it would be helpful if their parents were okay with them enrolling in a non-traditional course. Less important were factors such as having the teacher of the course be of the same gender as the student (7.4%) and having a student

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<sup>11</sup> The design of the survey and the survey instrument prevented an effective method of disaggregating data related to this question by gender.

support group or network (2.4%).

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## What Does Your School Do to Help Students Feel Comfortable Enrolling?

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Responses varied to the open-ended survey question asking students what their schools currently do to help them feel comfortable about enrolling in traditional or non-traditional CTE courses. The most common answers were “nothing” or “I don’t know” but many students offered more specific answers. Groupings of those common answers are listed below with an additional “other” category added to summarize additional comments:

### PROVIDE MORE INFORMATION/TALK TO THE STUDENTS

- “Give students information on the course”
- “Hold open house programs to parents and students to display the projects we complete and the things that can be done with the skills the class teach”
- “We have course fairs that give students the opportunity to [learn more about] the courses”
- “My school talks to classrooms about what it is like and why you should join a nontraditional CTE”
- “Our school wants every student to enroll in the career class of their choice and will provide as much information as possible to make them comfortable”
- “We know in general what the class is about. Also, all classes are open to all genders so anyone of the non-traditional gender can take it”



### ENSURE CLASSES ARE OPEN TO EVERYONE

- “Our program doesn't care if you're male, female, black, yellow, or purple for that instance. We are there to learn about Entrepreneurship and Business law to further our education and give us an advantage in our field, no ifs, ands, or buts”
- “Our school doesn't really classify any CTE courses as being ‘traditional’ for a certain gender, and our school doesn't treat anyone of the opposite gender any differently”
- “I remember seeing photos of girls in welding and boys in dental and I think that helps students see that even if they are the only one of their gender in the course for their specific year that they're not the only one in the course's history to participate”
- “They encourage both genders to base their decisions upon themselves rather than allowing outside factors, such as being a minority in the class, to divert their choice”

### WELCOME US/MAKE US FEEL COMFORTABLE

- “By making every student feel as comfortable as possible and treating everybody equally”
- “Welcome them in a judgment free manner”
- “Help them feel more comfortable around others”
- “They try to avoid making it seem like they stick out or are out of the norm. They treat them like anyone else in the class in order to keep them from feeling uncomfortable”
- “Make it clear that all students are welcome and not participate in any activities that are gender specific”
- “My school tries to make either gender comfortable by not focusing too much on it”

### ENCOURAGE ENROLLMENT BASED ON INTEREST NOT GENDER

- “Encourage to take the courses you want to take and not because of anyone else”
- “My school has a very open minded outlook when it comes to the classes that my peers and I decide to take. They never wave us in one direction or the other. They openly let us express our goals and simply do what they can in order to help us achieve them”
- “They try to appeal to our interests instead of specific genders”
- “They tell them you can do whatever you want”

### NOTHING/NOT NEEDED

- “My comfort level is not based on my school encouraging certain genders of people into taking specific courses but based on my own love of math and science”
- “From what I've observed nothing, although I typically don't pay much attention to the gender of my classmates”
- “I don't know if my school does anything to help non-traditional students feel comfortable in CTE courses. I don't think that there has really been any need to do so, as most classes have a good gender distribution”
- “This course is mainly male focused, the discipline of IT is, and has been a male dominated position forever. But treating both males and females on equal terms doesn't belittle either gender, and creates a more positive work space. By not doing anything, it makes both genders feel comfortable in any fields of study”
- “I was brought up on the idea that all are just as important as you ...I've never seen one good reason your race or sex should be a factor to who you are”

*“My school makes sure to set certain rules regarding respect and courtesy of each student.”*

### PROVIDE TEACHER/COUNSELOR SUPPORTS

- “They allow you to talk with the teacher and speak to them about your problem”
- “Our teacher makes sure everyone is involved so that no one feels singled out”
- “Help them get to know people in the class, help them look around the class and get comfortable for the class”

- “They offer counseling for any questions or misleading thoughts”
- “Counseling is offered for any confused students wanting answers”
- “They would make sure I had friends to talk to and not be singled out”
- “I’m sure our CTE counselors would help us feel comfortable and talk to the teacher in charge of the course to ensure we would be comfortable and treated fairly”

#### OTHER

- “You can switch classes”
- “My school makes sure to set certain rules regarding respect and courtesy of each student”
- “Tell them to have a friend join also”
- “They do lots of things but they don't work”
- “I guess my school just makes it clear that anyone can do anything they set their mind to, but it doesn't always stop others from teasing another gender interested in another gender’s occupation”
- “They tell us the money factor and whether you’re a male or female everyone loves money”
- “Encourage them to do what they love to do and not care if others were mean”
- “Playing games at the beginning of the year...”
- “They tell you how they need more people in that occupation and your gender does not matter”
- “I think they encourage girls to get into engineering, but I think that girls don't mind being with a bunch of guys because they are ‘smarter’ according to society and we don't mind proving everyone wrong but I think guys don't like taking classes with mostly girls because they feel like they are stooping down to ‘our level’”

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### How Could Your School Help Students of Either Gender Feel Comfortable Enrolling?

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This last portion of the general CTE student survey expands on the previous question by asking respondents what they believe should be done to help students feel more comfortable in enrolling in a non-traditional CTE course or program.



While many responses are similar to those stated earlier – e.g. provide more information about courses, use non-traditional students to market courses, provide additional supports – several new comments focused on allowing students to “try out” a course or program before committing to it through enrollment. More expressed their opinions of why little could be done to change the non-traditional situation.

Most surprising were many new responses that addressed the climate of the school and classroom. Implied in the responses is that some students have experienced or heard of instances where students or teachers made sexist comments or acted in ways that were interpreted as biased. Specific suggestions are offered on ways teachers and school personnel could alter the environment of the school to be more welcoming and more sensitive to words and actions that could influence students' decisions.

A portion of the hundreds of student comments received are highlighted below.

#### ADVERTISE/MARKET/PROVIDE MORE INFORMATION

- “[Give us] more information on the course before school starts in the fall”
- “My school offers tours and hours dedicated to walking interested students through what the class offers and what is expected in that class. We also have Open House nights where we come in to hear more information about the course and sometimes get to do a little hands-on experiment”
- “Advertise the classes better. Advertise dual credits and certifications students can earn”
- “Show how much fun a class can be”
- “Verbal meetings with all interested students were held [at my school], that way different questions can be asked”
- “Push the college credits more, then people will be more willing to join it because they will be working on their future”
- “In class descriptions don't say ‘perfect class for guys’ ...or ‘great experience for females’”
- “Give more information on a course to provide a better understanding and relieve the stress of non-tradition”

*“Have girls at the open house talk about the course. Not only guys. I guarantee it makes them feel uncomfortable to talk to guys they don't know.”*

#### PROVIDE SUPPORT/SUPPORT GROUPS

- “A support group or more information about this topic”
- “Provide a support group” (*multiple similar comments*)
- “Have a support group so that student could voice their opinions and hear others experiences to help each other feel better about being ‘non-traditional’”
- “I would suggest an online place for people to chat with others and share ideas/experiences”

#### USE NON-TRADITIONAL TEACHERS/STUDENTS TO PROMOTE

- “Find a speaker that has taken the course to speak about it, and make it more comfortable for that gender”
- “Bring back former students to the classes to tell their stories and see how the class helped them to reach their goals”
- “Bring in people that have a career already in a "non-traditional" career choice to speak”

- “Have a male and female student at the orientation or group gatherings of the CTE classes to show it doesn't matter what gender you are”
- “Have girls at the open house talk about the course. Not only guys. I guarantee it makes them feel uncomfortable to talk to guys they don't know”
- “Have males and females in advertisements videos of the courses”

#### LET STUDENTS TRY OUT THE CLASS

- “Let them try it out if they don't like they can get out of it if they want”
- “CTE shadowing. Allow any student to spend a certain amount of days a year (in 10th grade) to test out different CTE classes similar to college visits”
- “Allow students to “try out” the class for a day in the middle of the school year”
- “A lot more information for example what certifications you might be able to get. Or have a test day in the class in the middle of the school year so you have a feel for the environment”
- “Have visit days for the program so they can see what they would be doing”

#### I DON'T KNOW/DON'T DO ANYTHING DIFFERENT

- “I believe that my school does a very good job of doing this already, therefore there is little room for improvement. Students at my school openly enroll in any CTE course or program that interests them, regardless of whether they are traditional or not for their gender. They allow us to take any courses that help us achieve our ultimate goals; while leaving their personal opinions, regardless of what those opinions are unknown. They show us nothing but support throughout our route to graduation”
- “I don't know what else they can do. If people aren't interested for the reason of feeling like they are being singled out, then that becomes a problem in my opinion that no one can fix except the person them self. In my opinion, if someone is interested in a class they need to get over themselves and take the class. While this may be a bit blunt, I think that instead of trying to convince a large portion of girls to take the class they really want they should get a small number to take the courses they want to and try and get the others to follow by example”
- “I don't think the school really can do anything. People just generally feel uncomfortable doing things if they are the only one of their gender in a class. Trying to recruit more of the minority gender would possibly help though”



- “I don't think there is anything that you can do about this situation. They want to have equality and a mix of genders in each section, but honestly, that is something people won't be able to break. Girls are usually more sensitive and not up to be a mechanical welder. Does that mean there aren't any? Not at all. There are girls out there that are really tough and love things like that. And I don't think that those girls in particular, are going to be scared away, because there are a bunch of guys taking that class”
- “Not change anything, I think this class was taught great, and always made me feel like I was part of it. Maybe guys even tried harder, since they saw I could do the same things they could”
- “Probably nothing as we are all stuck up teens with our own mindset”
- “Really I don't think this is on the school. It's more of a self-acceptance thing. Who really cares if you're a minority if you're doing what you love”

#### ADDRESS SCHOOL/CLASSROOM ENVIRONMENT

- “Be supportive and respectful of the student's decision and look out for bullying, harassment, or exclusion of any kind”
- “Make sure everyone is respectful to each other”
- “Make sure people are comfortable and feel safe”
- “Make the sexist people stop”
- “Don't ever point them out or always call on them for answers”
- “My school could attempt to decrease the amount of competition and discrimination between opposing sexes”
- “By ... not making [them] feel like one gender has more attention than the other”
- “Talk to students who are extremely ignorant and inform them that it's not acceptable”
- “Group activities in where the students are more social so they can get to be comfortable around the opposite gender”
- “Make everyone feel welcome, and equally important. I think if everyone has the same level of rights and respect to start then, it'll be their job to keep it that way”
- “By giving us transgender (i.e. unisex) bathrooms, specifically with only one person aloud in it, I want waterfall noises, and dim lighting”
- “Make sure there are activities everyone can do and try to get both genders to join”
- “Actually help the students and talk with them! Not say they will talk with them and never talk with them. The school should try to make everyone feel comfortable and frankly my school does not do a good job about that at all!!!!”
- “For females add a certain aspect of protection for their own safety and limit sexual harassment”
- “Tell the boys/girls to stop being sexist and grow up, and that it doesn't matter if a girl is in all boys class or vise-versa because you just might learn something from the opposite sex”
- “We could encourage women to feel comfortable, especially in building and engineering classes. Those are the classes in which females deal with students being biased the most from what I have heard from friends”



## Part II. What Non-Traditional CTE Students Say about Non-Traditional Education

Just over 300 Indiana high school students, specifically students who are enrolled in at least one non-traditional CTE course or program, responded to an online statewide survey for this report.

Of the respondents, 60.1% were female and 18.0% were male – reflective of the gender enrollment differences in non-traditional courses around the state – and 21.8% did not specify their gender.

All state-identified non-traditional programs were represented in the survey with the highest percentage of respondents enrolled in Principles of Biomedical Sciences and Human Body Systems courses and Health Careers, Criminal Justice/Law Enforcement, and Welding Technology programs.

Though many of the student comments and suggestions in this survey mirror those of all CTE students summarized in Part I of this report, the comments here are more detailed and arise from the perspective of someone who is or has been in a non-traditional CTE course or program.

A sampling of common student responses is summarized below, arranged by the topics covered in the survey questions.

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### Did You Have Any Concerns about Enrolling in a Non-Traditional Course?

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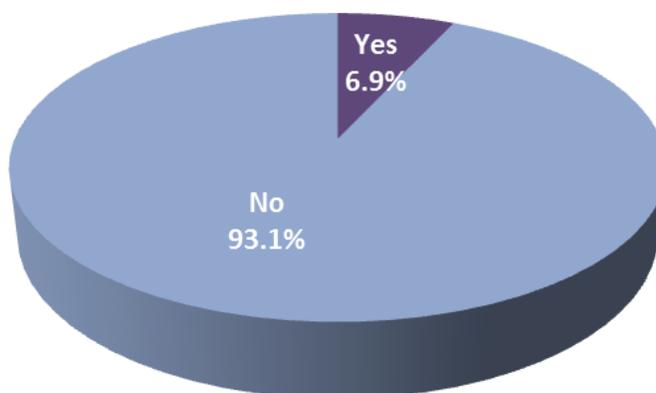
A solid majority (93.1%) of survey respondents answered “no” when asked, “Did you have any hesitations or concerns when you enrolled in the non-traditional CTE course or program?”

Among the 21 students (6.9%) who answered “yes” to the question, the reasons provided were varied. A sampling of common responses is summarized below.

#### YES

- “It’s not a class many guys take”
- “I knew Architecture was a nontraditional career and was worried that I would get discriminated against, because I am a woman”
- “Worried about being the only guy”
- “Did not want to be made fun of”

Chart G. Percent with Hesitations or Concerns when Enrolling



- “It's kind of off putting to be one of few female in a class that is usually designated for men, in the typical ‘gender role’”
- “Now that we have started using the torch it is very scary to me. But MIG welding is a lot more fun than what we have done in this class”
- “I was worried that I wouldn't be welcomed in because I was a girl”
- “That I would be treated differently because I was not the typically gender that enrolls in classes like this. But after coming to the class and meeting the teacher and realizing I was not the only female in this class, I felt more relaxed about the class. The environment is great to work in for both females and males”

*“I was worried that I wouldn't be welcomed in because I was a girl.”*

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## What Was Your Experience Like to be the Minority Gender in Your CTE Course?

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Understanding what students who are non-traditional go through when enrolling and participating in a CTE course can help adults and leaders understand what students experience, and lead to discussions about what, if anything, needs to change.

Of the hundreds of open-ended responses received, most reflected positive experiences while others said they didn't see the experience as different than any other class or program they were taking.

Several students indicated that enrolling in a non-traditional course or program was awkward at first but that they soon adjusted and ultimately enjoyed the experience. Others found it challenging. Several female respondents detailed negative experiences – especially with males in their classes – though many showed resiliency despite obstacles. Nevertheless, the responses shed light on the work that remains to be done to ensure that students of both genders feel safe and welcome in all CTE courses and programs.

### NO DIFFERENT/DID NOT FEEL LIKE A MINORITY

- “I don't feel it has been different because our teacher makes the course inviting for all students. He doesn't discriminate between genders and believes in us just as much as the boys”
- “I don't feel any different than my peers, they don't make me feel like any less than a future designer just like them”
- “I didn't really think that much of it. But it has been good. I didn't feel like the ‘minority gender’”
- “I don't necessarily feel like the minority, yes, there are less than five girls in this class but it's a laid back type of class. As long as we have our work done, we all get along well”

- “I think it's great because it gives you the opportunity to stand out from everyone else”
- “The other girls and I in my CTE class are all very smart and dedicated to our work. Everyone in my class gets along and we are all like a big family”
- “It felt normal because it was just a class to learn in not a class to worry about what gender is dominant”

#### POSITIVE

- “For me, my experience has been great. For the past two years I have had the experience to work and learn with other girls and boys from different schools”
- “I felt in place with the rest of the students and was never treated negatively or given any "special" treatment because of my gender”
- “I found it interesting to be in a class with a bunch of females. It wasn't really different from my other class than my being the only male”



- “It gave me a boost of confidence to be one of the only females in my computer class, but at the same time I quickly got annoyed because everyone keeps on

asking me this same question. It doesn't matter that I'm a female. Gender shouldn't be a factor in deciding what careers you are interested in”

- “It has been fine. Besides visibly seeing that I am part of the minority, I feel the same as everyone else in my class, girls and boys included”
- “Well personally I liked it. It allowed me to understand how females communicate with one another more easily. The whole experience has given me a greater respect for the opposite gender”
- “Very interesting. Enlightening. Most of all, my work was never interfered in an inappropriate manner”
- “My experience was amazing the guys pushed me to do my hardest and to keep up with them”

“It's actually fun, the students treat me the same as if I was one of the guys. Sometimes they even forget about my gender when we rough house, but my teacher keeps them in line since I'm almost the smallest one in my class”.

### AWKWARD AT FIRST

- “It's different to be in a class with mostly males, but it turned out to be a good choice”
- “It was scary at first, but once I got used to being there, it became more fun to be in the club and work with other people in the club”
- “I was nervous at first but I enjoy the class now “
- “It felt awkward and good at the same time. It felt awkward, because at one point, I was the only female in the class. It felt good, because I knew I had the chance to prove to the males in my class I could do anything they could do”
- “It felt different because all of the girls were surprised at first”
- “It was hard and awkward at first being the only girl in a class full of boys but after a while you get used to it”

### CHALLENGING

- “For me, it kind of scared me because I was expecting to go into a classroom full of guys”
- “I didn't experience much negativity in any of my engineering classes from teachers, but some peers didn't value my ideas as much as they did the boys”
- “Can be weird at times because I don't have many guys to talk to”
- “It was kinda hard because there was a limited amount of girls in the class, so it was hard to talk to the guys that were in the class”
- “It's definitely a challenge, people look at the females and me differently than the males
- “It's weird. You feel like you have to prove yourself to everyone”
- “I think I was able to concentrate more and do my work more but then again I had nobody to talk to, it was weird”
- “It's uncomfortable at times”

### ISSUES WITH MALES IN THE CLASS

- “My first year I was made fun of and bullied because of the fact that I am a girl, and that I tried harder than ever (coming in during resource or lunch to make up projects or work on skills that needed improvement). Some of the guys would make derogatory comments towards me, including about gender and my work ethic, but all of that was taken care of by the [CTE] office and the deans. This year was a fresh start, and everything [is going] smoothly. Everyone goes about their work, we learn independently and we help each other whenever we need to. Honestly, by the way that we all coexist, we hardly ever notice that any of us could be ‘nontraditional’”
- “Males are immature”
- “In our PLTW biomedical science class, females are the majority, so I'm not really the minority. But in other classes I've taken, such as robotics, males are the majority and they are often really dominant and don't think females can do anything as well as they can. That REALLY bothers me and I think it needs to change immediately”
- “I think that having another girl in my class helped me get more comfortable at the beginning. It is a little nerve racking to be in a male dominated classroom, but after the first week that fear was gone”

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## Were There Factors that Helped you Decide to Enroll in a Non-Traditional Course?

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While more than half of survey respondents (54.4%) stated no factors helped them decide to enroll in a non-traditional course or program, 128 students (40.5%) were very specific about what positively impacted their decision.

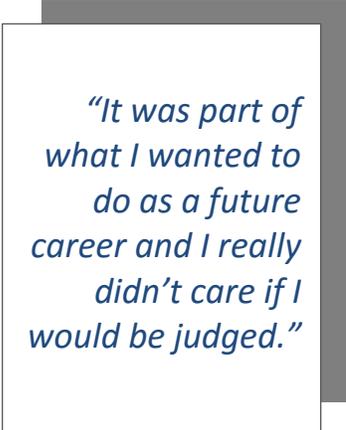
Though the responses were open-ended, most of the reasons fell into one of two categories:

1. The course or pathway aligned to my career goals and future plans, or
2. A friend, parent, teacher or counselor recommended I take the course.

Some of the comments from both of these categories are included below plus a variety of other responses that were given.

### COURSE/PATHWAY RELATED TO MY CAREER GOALS

- “I was self-motivated to enroll in the nontraditional CTE courses because I wanted to explore my interests in the engineering career path. The people in the class had no effect on my decision to enroll”
- “Because this class relates to my future”
- “The explanation of the class and other students reviews of the class”
- “It was part of what I wanted to do as a future career, and I really did not care if I would be judged. Getting to this class eased my mind because there was no judgment towards any females and we all work together when we need to. It is an equal opportunity class”
- “I have a career in mind that I would love to do and this class helps prepare me for that job”
- “I have had a deep love for the medical career, and these classes are just perfect for that”
- “I like Health Careers and always wanted to be in it”
- “It's my dream and my passion to be an auto body technician. One day I hope to open my own shop”
- “I've always been interested in a law enforcement career so that of course had a big impact on my program choice”
- “This is a career that I am very interested in and knew this class would help decide what I want to do in the Criminal Justice field and put me one step closer to my decision”



*“It was part of what I wanted to do as a future career and I really didn't care if I would be judged.”*

### FRIEND/FAMILY MEMBER/TEACHER/COUNSELOR RECOMMENDED IT

- “My friend said she loved the class”
- “A lot of my friends were taking the class”
- “The counselors encouraged me to take the class and I love the subject”

- “My aunt is a mechanical engineer and she strongly encouraged me to look into engineering”
- “My dad worked on cars and I wanted to help him so to be able to do that I wanted to take this class to be able to learn more about cars and how they work”
- “The fact that my friend was also taking the class and he talked me into it”
- “Previous students”
- “The teacher allowed me to talk to her and help me decide what would work for me. She gave me advice and said others have taken it”
- “The information I got from the guidance counselor about the benefits of the class I'm taking and what's inquired in it looked interesting”
- “Middle school teachers encouraged me to do so”
- “I had male friends that took the class and they liked it and told me more about it”
- “I really enjoy welding, and I heard it was dual credit”
- “Teachers recommended me for these courses”

#### OTHER REASONS

- “The class offered the possibility of earning college credit and gaining a better understanding of the healthcare field and its careers”
- “A year earlier, I took Auto CAD classes and the teacher who taught them was very supportive. He inspired me to join this nontraditional CTE program”
- “Great teachers”
- “The TV show Criminal Minds”
- “That I could be ASE certified”
- “[Career center] open house and I felt it is the best thing for me”
- “The teacher makes the course very inviting for all genders and interest levels”
- “Knowing the college credits, being away from school, and learning real world things”
- “The description of the class and having someone who talked to me about the class before signing up”

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#### Did Any Adults Question Your Decision to Join the Class?

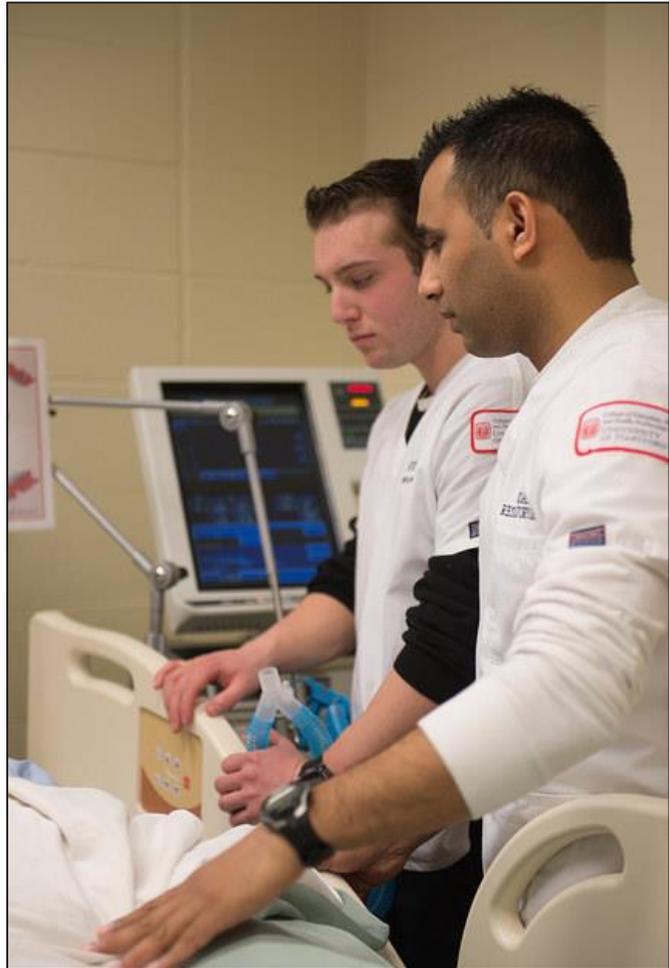
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Slightly less than 15% of non-traditional students indicated that their parents questioned their decision to join the class. Of the “yes” respondents, the majority were females (65.2%).

What students reported their parents saying and how they responded, attests to the strong determination of students to pursue CTE courses and programs that interested them despite the reaction of outside influences. Highlights of students’ responses are listed below:

- “They said, “Are you sure? You may be the only girl in there”
- “They gave me the expected ‘but you're a girl’ comment. I simply told them it doesn't matter if I'm a girl, because I'm comfortable with computers and coding, and I feel like it could be a possible career path for me”

- “Parents wanted to make sure I really wanted to be in the criminal justice field”
- “Yes, my dad wanted to know if I was ready to work hard to do well in this class”
- “Many people asked if I would become a cop. Also a question I got a lot was if I think I could make it because of my size. My responses were that I will just have to work harder than everyone else”
- “You won't make very much \$. I said I don't care this is a career I want. So that's what I am doing”
- “They said it would prepare me for college and I said thank you”
- “They asked me why [and] I said why not”
- “My family was just surprised that I had chosen this because my family had been welding and I had just never expressed my wants or interests to do it”
- “The adults did not want me to enter the nursing field and they tried to divert me from it”
- “My mother because she was worried about me going into law enforcement because it is a dangerous profession”
- “A counselor said I couldn't but I did and it turned out alright”
- “My mom questioned me saying that it was going to be full of boys and that I would be the only female. My step dad thought the same, some of my teachers seemed to question and so did the counselors. I did what I want anyways”
- “They kept saying are you sure a girl can do it? And they also would tell me that I am gonna get dirty. My response was yes a girl can do it and yes I know I'm gonna get dirty, that's what I want is to do what I dream not what society dreams for me”
- “They often asked "Why welding?" or "That's dirty, though". It was my decision, and I was not about to back down because other people thought it was "dirty" or too dangerous. I love what I do, and I know that I am building a future for myself. Trades are not for everyone, but if it weren't for tradesmen the world would not be quite the way it is and life wouldn't be as easy as it is for everyone now”



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## Did Any of Your Friends Make Derogatory Comments?

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Only 7.9% of respondents selected “yes” when asked if friends made derogatory comments when they enrolled in a non-traditional CTE course (56.0% of “yes” responders were female). Some of the many comments from the question are listed below.

- “They [told] me it's a female only class and I should do something else”
- “It's a man's field and I always respond ‘well not anymore’”
- “A lot of my friends told me I couldn’t do it because I was a girl and only guys joined the class”
- “Some of my male friends made fun about me going into the health field and becoming a "nurse." They were made as jokes though and I understand why they made them. They were just joking”
- “My friend Lindsey said ‘That's gross’ and I said ‘It's not gross, it's cool!’”
- “They questioned my ability to learn how to code, in which I proved them wrong by showing them that technology comes easy to me”
- “They said stuff like it was a guy’s class and questioned how many females were in it”
- “Before I enrolled in CTE, some of the students that [were] in my Auto CAD classes made negative comments about my decision to enroll. They told me architecture was a man's job, and I had no business trying to study something like that”
- “They said ‘but you're a girl’ and I said ‘so what’”
- “Boys acted like it was the end of the world for me to like welding and most girls had no idea what I was talking about”
- “I think everyone who knows me, encourages me to do better. But at the beginning of the first semester, guys in my class would make a few comments as to if I could take the roll in the class. I did not care what they had to say, I did what I needed to do”



*“They said ‘but you’re a girl’ and I said ‘so what.’”*

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## Was a Non-Traditional CTE Teacher Helpful?

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Yes and no responses were evenly mixed when students were asked if having a CTE instructor who was non-traditional for the career area they were studying was or would be helpful with 49 saying “yes” and 46 saying “no.” But the highest number of responses to the open-ended question was some form of “I don’t care” or “It doesn’t matter.”

About half of the open-ended responses were “yes” (51.6%) while the other half were “no” responses (48.4%). Highlights of respondent’s answers are indicated on the next pages.

## YES

- “Yes it was helpful”
- “Yes it was, it motivated me”
- “I would personally feel a little better if the instructor of the course was the same gender as me”
- “Yes because I could talk to them about any problems I was having in the class”
- “Yes, it made it feel more open for other females to see how someone else like us could be successful and not be put down by the supposed gender specified jobs”

## NO

- “No because it doesn't matter! As long the teacher is doing their job”
- “No, it honestly does not even matter to me that I am a minority”
- “Not really it doesn't make an impact”
- “To be honest I don't see a correlation between gender and job. So no, not at all”
- “Anyone is helpful as long as they know what they are doing”

## I DON'T CARE/IT DOESN'T MATTER

- “I think a teacher is a teacher as long as I learn what I need to learn its fine”
- “Both teachers I've had were female. I wouldn't care if they were male or female”
- “It doesn't matter the gender to me, as long as they are good teachers, that are there to help me learn”
- “Both instructors are of the traditional gender which doesn't alter my view of the course”
- “I HAVE a teacher who is "non-traditional" and I didn't even realize that the class was supposed to be male dominate...My teacher is an awesome teacher and helps us understand everything to the best of our abilities, it doesn't matter whether my teacher is male or female”
- “I have not had a female computer teacher but my male teacher did an excellent job of getting me started in this field of technology”
- “My instructor is traditional but there is a female instructor across the hall and that's refreshing to see in the engineering wing of the building”
- “My teacher is "traditional" for my program, either way I would be learning the materials I need, despite his/her gender”
- “My teacher was a great teacher and taught me a lot, I don't think the fact that she was a women played any role into it”

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## What Could Be Done to Make it Easier for Other Students to Enroll?

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The final question in the survey of Indiana’s non-traditional students asked respondents to identify what CTE programs could do to make it easier for other students to enroll in courses or programs that are non-traditional for their gender.

Unsurprisingly, this open-ended question generated the widest variety of responses ranging from “I don’t have any ideas” and “you’re already doing enough”, to some very targeted suggestions. Key strategies, grouped from all responses, are listed below with student comments. Several single but creative responses are also listed.

#### ALREADY DOING ENOUGH

- “I don't think there is anything that can be done. Either you feel comfortable with being in classes with the other gender or you don't”
- “I don't know how much the CTE program can do to make it easier. People join these programs because they are interested in going into that certain career and want to get a head start and experience it firsthand”
- “For a lot of these courses it seems that there's more of a cultural problem with gender stereotyping and roles in the American society than anything the programs do or could do to correct it. In my opinion, about the only thing one can do in these situations is make sure one isn't discouraged from their choice or otherwise bullied, which I feel this campus has done a good job with”

#### ALLOW STUDENTS TOUR/TRY OUT CLASS

- “We should do more tours, have students who are "non-traditional" sit in for a day, it would make them realize that this is not just a "girly" class. The material being taught is very helpful for all people”
- “Just offer information, don't try to appeal to one gender or the other. Actually, do not address it at all. Talk about the pros and cons of that area, give them some inspiration”



#### ADVERTISE/MARKET

- “Advertisements, descriptions of the course, and high encouragement”
- “Promote the program more aggressively and point out to guys that this course is fitting for them as well”

- “The programs could be promoted to the other genders a little bit better. When you see welding advertised you never see a women welder”
- “Have more outreach. Interest more girls in technology. Convince them it’s not just for ‘Geek and Nerds’”
- “Don't advertise the course with just one gender, when there are tours, have both genders talk to the students”
- “CTE programs could have guest speakers who are nontraditional in their field to show other students that it is okay to do something that is not the norm”

#### MONITOR THE CLASSROOM ENVIRONMENT

- “Not say sexist things towards females. It's horrible”
- “Make sure you get a teacher that isn’t rude. Make sure you get a teacher that is actually into that course”
- “They help make the uniforms very unisex vs. girly, or too guy looking”
- “Do interesting and creative projects within the classes [and] encourage students in the course of all genders to tell their friends about the projects they are developing”
- “Honestly, all you have to do is make them feel accepted or to just let them know female students are wanted and these are skills that you can use in your real life”

#### CREATIVE IDEAS

- “Don't change course titles to tech heavy words, e.g. Computer Science instead of Programming”
- “Have friendly, attractive (appearances matter) people promote the classes”
- “Place emphasis on the fact that it will be easier for a nontraditional student to get a job after they complete the course then it would be for a traditional student”
- “They could try to make a class with all of the minority gender if enough people sign up”
- “CTE could help non-traditional gendered students by introducing the courses to younger students...so if they get involved, there isn't a stereotype already planted in their minds”
- “Maybe put statistics of females and males in the certain work force”
- “Be welcoming to nontraditional students and help them when they need it”



### Part III. Suggestions from Indiana’s CTE Directors

Coinciding with the distribution of the student surveys, Indiana’s Area CTE Directors were asked to complete a survey highlighting ‘what has worked’ in the area of non-traditional enrollment and completion. Directors were also asked what materials and activities they have found to be useful and what resources and actions were still needed.

Though only a third of CTE Directors completed the survey the resulting information provides details that teachers and other CTE Directors should find useful.

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#### What Has Been Successful in Marketing, Recruiting and Enrolling Students in Non-Traditional CTE Courses/Programs?

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The first and second questions of the Director’s survey attempted to delineate between materials that were useful in marketing and recruiting for non-traditional CTE courses, versus encouraging students to enroll in non-traditional courses. Because the answers provided are similar and can be useful for both approaches, we have combined them in the summary below.

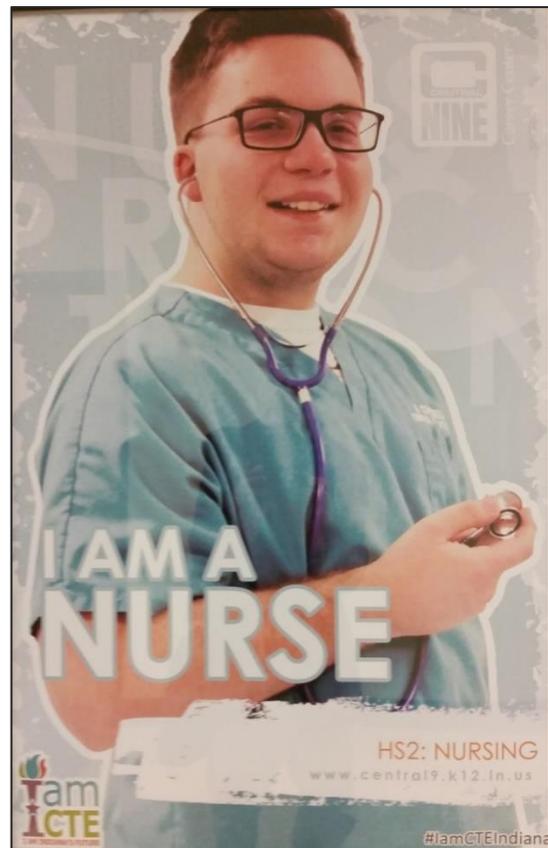
##### CTE DIRECTOR RESPONSES:

- “Selecting/highlighting student ambassadors who are classified as non-traditional”
- “This is an ongoing issue. We work hard to have a partner for a student who is in the program so they are not the only one to represent their gender”
- “We have been working with our 5-6th grade students in bringing them to the classrooms and labs to help break down the barriers associated with CTE and gender stereotypes. We are currently working to develop and pilot a mentor program with several of our young ladies who are in non-traditional classes to mentor our 4-5-6 grade students in one of the elementary schools”
- "Marketing"...and celebrating the success of present non-traditional students. However, there is no silver bullet. This is a societal issue”
- “It has been a difficult undertaking. We hold a career fair and host "Girls in Bloom" which is a one day workshop at the career center focusing on opportunities for girls”
- “During our two open houses, we also stress opportunities for students”
- “Using pictures of non-traditional students in all published items, always noting that our courses are for ALL students in our recruitment presentations”
- “For many years we have offered a Women in Engineering breakfast for 8th grade girls where they can talk with female engineers over breakfast”



*“Our greatest marketing and/or recruiting tool remains word of mouth.”*

- “We offer a “Girls in Engineering” camp to 8th grade girls over 4 days of our spring break intersession. This year we are expanding to offer a second camp of Women in Technology. (We wanted to offer a camp to our young men but teachers were not available.)”
- “All of our marketing materials, websites, and electronic communications include images of nontraditional students in the programs”
- “Our annual N.E.W. Workshop (Nontraditional Employment for Women)”
- “Women in Engineering after school with college role models ACE Mentoring - Engineers of both genders mentor Shadowing opportunities”
- “Highlighting non-traditional students during recruiting visits at the high schools, making sure teachers speak to nontraditional concepts during sophomore visits”
- “Our greatest marketing and/or recruiting tool remains word of mouth. Each year we have sophomores from our sending schools visit the career center. During this time I speak frankly with our visitors, sharing the needs and opportunities for non-traditionals in the field of law enforcement are greater than ever before”
- “We share the successes of our prior students by posting a 'Wall of Fame' outside of our classroom highlighting our program completers and where they are today”
- “Females in Technology Club and hiring non-traditional instructors”
- “Selecting/highlighting student ambassadors who are classified as non-traditional or underrepresented”
- “Strong curriculum, focus on STEM including the PTLW bio-med and PTLW pre-engineering”
- “CTE Tours allow students to see both genders in action in the classes we visit”
- “Non-Traditional Mentors speaking to students (we have mentor speakers who are students)”
- “Participating in Robotics builds confidence for the engineering classroom Girls recruit girls and Boys recruit boys Students recruiting seems to work better than teachers recruiting”
- “Non-traditional students recruiting non-traditional [students], teachers of non-traditional classes encouraging enrollment during sophomore visits, and students seeing other non-traditional [students] during their sophomore visits”
- “We visit the home/sending high schools for lunchtime recruiting events”



- “A Counselor Academy and specifically industry tours highlighting non-traditional adults working in industry and their pay. We even have some speak to the counselors and explain their journey. We had one [former student] tell counselors how a counselor tried to discourage her from following the path and now she makes xxxx dollars and loves her career and to this day holds a grudge against that counselor”

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## What Strategies, Practices or Approaches Have Been Successful in Increasing the Number/Percent of Students Who Complete Non-Traditional CTE Programs?

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Approximately 30% of Directors who responded to this question said non-traditional completion is an ongoing struggle that has not shown much change. Others offered two broad strategies that appear to be successful.

### INTENTIONAL SUPPORT FOR TEACHERS/COUNSELORS/OTHERS

- “We have established a General Education Intervention (GEI) team that monitors student performance. The team receives student performance data every two weeks. The team plans interventions for students who are not being successful”
- “We use cohort groups and support groups and provide extra counseling, but I think once they get in to a class, the completion rate is fine. The problem is in recruiting nontraditional kids”
- “We have determined this has to be a focused effort and support for the student is critical which cannot happen without good communication between the teacher, parent, counselor, and administration in order to provide that support. I have assigned that responsibility to a dedicated person”
- “Teacher awareness of the improvement needed so they can encourage students
- “Counselor and student support staff staying in close contact with non-traditionals, asking non-traditionals to speak at events”
- “Having counselors group non-traditional students in the same class when possible causing a cohort environment for support”
- “I believe true engagement and relationships with the instructors are what make the biggest impact once we have students enrolled and moving through the curriculum and acquiring skills”

### MENTORS/SPEAKERS/ROLE MODELS

- “Mentors from the Women's Commission”
- “Women in Engineering Breakfast”
- “Guest speakers that are Non-Traditional”
- “Role Models”
- “Our program completers regularly visit the classroom to share their experiences. This is a fantastic motivator”

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## What Strategies, Practices or Approaches Have Not Been Successful?

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Many respondents (33.0%) felt this question was the easiest of the survey since they believe little has been effective in impacting non-traditional student enrollment and completion. Nevertheless, several comments are instructive.

### WHAT DOES NOT WORK

- “I would suggest not placing nontraditional students into a program unless they have expressed a clear interest, and they appear prepared to engage the curricula”
- “We work to always have representatives that look like our students in all of our interactions. But research has shown that the one time contact does not change attitudes or beliefs. So if you are doing the Women in Engineering breakfast and that is mostly it, it probably is not yielding great results. More thoughtful, constant and intentional contact will do more for helping with the change. We are struggling with this concept due to the time it takes and lack of personnel”
- “It seems much harder to reach guys who are non-traditional”
- “Passive marketing such as posters and brochures”
- “Trying to talk to large groups of parents at once”
- “Nothing has worked well (6 comments). We have done summer camps. We have hired nontraditional teachers. Nothing has dramatically increased our nontraditional numbers”

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## What Resources or Programs Would You Recommend?

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Listed below are a number of resources and programmatic suggestions gleaned from the survey, organized into three primary areas – camps, workshops, and targeted resources.

### CAMPS

- “We used to run a summer robotics camp, each girl that attended the camp ended up enrolling in one of our STEM classes”
- “We are attempting nontraditional summer camps in 2016”
- “It seems like 8th grade summer exposure camps help, but that is hard to prove and we have never been able to fund these at a level large enough to influence enough kids”
- “I would recommend camps as well as nontraditional support groups with mentorship”
- “We have used Career Summer Camp and images of nontraditional students in websites, posters, and marketing materials”

*“Short videos and gender specific summer camps seem to work.”*

- “We do offer a STEM camp for 5-6 graders taught by the CTE teachers. It has had some success with about 50 percent of the students attending are females. We are interested in seeing if we see changes when they arrive at the high school level”
- “Summer Manufacturing Camp for MS students. All of our promo materials focus on gender equity”
- “I think it depends on the program but the short videos and gender specific summer camps seem to work”

#### WORKSHOPS/OTHER

- “Nontraditional Career Workshop for 10th grade girls”
- “Robotics, ACE Mentoring, Women in Engineering”
- “Individual shadowing opportunities”
- “Day in the Life of... events”

#### TARGETED RESOURCES

- “We utilize online resources such as PoliceOne.com and Officer.com which allow the students to see the various job opportunities throughout the US. Several police agencies now have professionally-produced recruiting videos highlighting the opportunities for all”
- “We have posters but haven't determined the benefit”

### What Resources Would You Like to Have Created?

Promotional and marketing resources to boost enrollment in non-traditional courses and programs were the most commonly expressed need from CTE Directors. Most stated they would like the state to provide the marketing resources or a resource template that can be modified or tailored to fit area CTE district needs.

#### GENERAL PROMOTIONAL MATERIALS

- “We used to have tons of Gender Equity grant paid for stuff, pencils, pens, posters, etc. Most of those are long gone, but we do have access to videos and other multimedia stuff”
- “I would like to create flyers that advertise a program. On this flyer I would use a picture and quote from a non-traditional student”
- “Gender equity videos, posters, sharing REAL kids from our programs on the marketing materials. Stay away from "stock" type photos”

#### VIDEOS

- “A state wide [marketing/promotion] video we could use to promote non-traditional enrollment”
- “It would be nice if Females in Technology was recognized statewide and had some kind of state event”

- “We keep trying at this, nontraditional videos about various careers. We are working on one for Manufacturing, but we've actually done that before”
- “I think videos would be a good addition”
- “A great ad video with special effects and a solid narrative would be nice”

#### MENTORING

- “Mentorship is sometimes challenging to arrange, but it is by far the most effective approach to improving nontraditional retention and completion”
- “A mentoring program to give the enrolled students someone to meet with and discuss issues encountered in the classroom for the nontraditional student”

It should be noted that many respondents expressed frustration in trying to meet the federal Perkins requirement for non-traditional participation and completion, feeling the requirements were not needed, or the targets too high, or the expectation unrealistic. Many stated they had tried numerous strategies over the years with little or no improvement.



## Part IV. Review of Research Literature

Dr. Brandie Oliver, Butler University

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### What Does the Research Suggest for Non-Traditional Enrollment and Retention?

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Before turning to more specific recommendations for improving non-traditional enrollment and completion, a summary review of the research literature can provide some evidence-based insights and ideas.

#### Parental Involvement & Participation

Multiple research reports reflect the pivotal role parents play in their child's selection of a career choice. Socialization and awareness of gender stereotypes are impacted by parent perceptions and affect decisions to encourage or discourage their child from pursuing a particular career.

Studies suggest that schools and CTE districts:

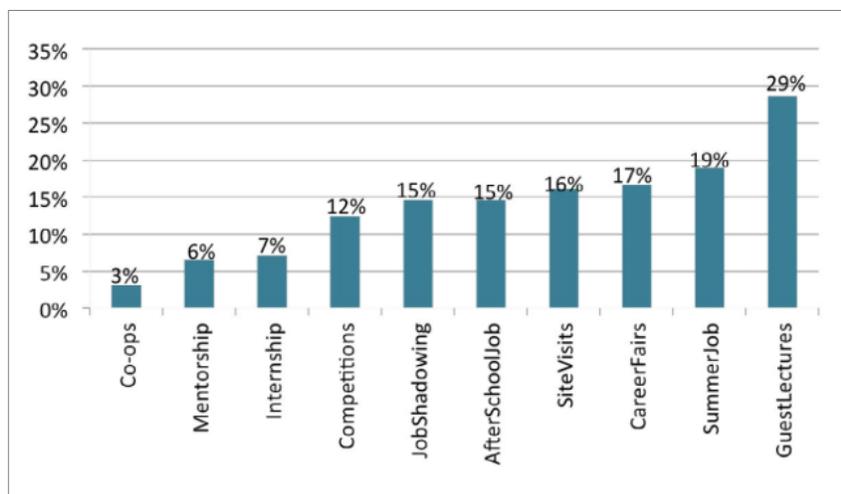
- Create programs to help parents partner with their children to identify appropriate career choices (including nontraditional careers)
- Invite parents to career events at school that showcase nontraditional career choices
- Involve parents in postsecondary planning meetings
- Invite parents to worksites where there is representation of nontraditional employees
- Provide parents with talking points to help spark conversations at home about career options, including traditional and nontraditional careers.

#### Student Education and Awareness

Studies of non-traditional education programs find that schools can directly influence student's occupational decisions through a variety of experiences that:

- Offer students opportunities to experience nontraditional careers through hands-on work
- Expose students at an early age (elementary and middle school years) to various career pathways, emphasizing nontraditional career choices especially at the various grade levels where careers are discussed.

Chart H. CTE Students' Exposure to Future Employers



- Provide opportunities and encourage participation in job shadowing, internships, career fairs, etc. Chart H indicates the very low current level of exposure of students to work-based learning experiences as reported in *Attracting the Next Generation Workforce: The Role Of Career And Technical Education Report*<sup>12</sup>
- Create a local speakers bureau of non-traditional professionals and promote among teachers in schools. Make it as easy as possible for teachers to access these speakers
- Promote and build confidence for students to follow careers that are matched to their interests, and
- Lead awareness campaigns surrounding the benefits of pursuing non-traditional careers.

### **Mentoring Programs**

A common practice among high performing CTE programs that have successfully increased the enrollment and retention of under-represented students in CTE programs is the development of mentoring programs. Research indicates students need to see someone of their gender working in a particular career before they are likely to consider it for themselves,<sup>13</sup> and having intentional opportunities to learn from these mentors is critical to students' ongoing participation in this career area. Studies say:

- School alumni are the best first choice for mentors
- Students already working in the field are another great group to provide mentoring
- Consider college students in nontraditional careers with prior high school CTE experience
- Explore the creation of work experiences with members of CTE advisory boards and professional associations
- Catalog you're your local resources, know what work-based learning experiences are available to students in your school community.

### **Educator Perceptions & Knowledge**

Some research suggests that educators critically examine their own beliefs and reactions to students, especially those discussing nontraditional career pathways.<sup>13</sup> Questions educators and counselors could explore include:

- "Do I find myself feeling a little uneasy when a male student wants to become a nurse, enroll in early childhood education program or consider cosmetology?"
- "Do I feel a little uncomfortable when a female shares an interest in becoming a welder, automotive technician, or a mechanic?"
- "Do I have any preconceived notions of what is considered 'women's work' and 'men's work'?"

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<sup>12</sup> Manufacturing Institute, SkillsUSA & Educational Research Center of America. (2015). *Attracting the next generation workforce: The role of career and technical education*. Retrieved from <http://www.themanufacturinginstitute.org/News-Articles/2015/10/~media/313BCA4C3721444CA8C48F7304F32027.ashx>

<sup>13</sup> Lufkin, M. E., & Wiberg, M. M. (2007). Gender equity in career and technical education. In S. S. Klein (Ed.), *Handbook for achieving gender equity through education* (2nd ed.), (pp. 421-443). Mahwah, NJ: Lawrence Erlbaum Associates, Publishers.

Reflecting on the answers to these questions may allow educators and counselors to gain valuable insights into their own values and beliefs regarding career choices for each gender. These values and beliefs can greatly impact a student and his/her decision-making process.

Additional studies suggest that all educators receive gender-equity professional development in order to break down stereotypes and to increase the options for both men and women in nontraditional careers.<sup>13</sup>

### School Counselors

Given that school counselors ranked the lowest on the chart of influences on career options, research indicates that it may be helpful for school counselors to examine the “why” behind this perception commonly held by students. Since a significant role of a school counselor is to assist students with college/postsecondary and career planning, they can take the lead on developing a comprehensive approach to increasing non-traditional career choices by students. In addition to the already mentioned recommendations, school counseling programs can:

- Make gender equity a distinct focus of career fairs
- Establish a gender equity team or advisory council to address recruitment and retention (assuring that the council make-up has nontraditional representation)
- Coordinate mentoring programs and educational programming
- Engage businesses, organizations, and work sites in high school career and technical education programs
- Work with employers to help them obtain highly skilled workers, regardless of gender<sup>14</sup>
- Collaborate and develop partnerships with community organizations (e.g., Girl Scouts/Boy Scouts, Big Brothers/Big Sisters, Boys and Girls Clubs), Career and Technical Education Student Organizations (CTSO’s), trade organizations, and other after-school opportunities.
- Start a club or afterschool group for students related to nontraditional employment
- Connect with area colleges to increase the non-traditional pipeline from school to



<sup>14</sup> Toglia, T. V. (2013). Gender Equity Issues in CTE and STEM Education. Tech Directions, 72(7), 14-17.

employment

- Partner with representatives from business and industry to provide tours and coordinate job-shadowing opportunities, apprenticeships, and internships to give students an inside look at different careers
- Recognize the achievements of non-traditional students<sup>14</sup> at school award ceremonies and functions.

### **Financial Support**

Gender equity issues can also extend into the areas of financial aid and support according to the literature. Here again, school counselors can be helpful by providing scholarship information for careers that are considered non-traditional by gender. A few examples include:

- Men-Teach ([www.menteach.org](http://www.menteach.org)), a non-profit clearinghouse providing financial resources and programs for men pursuing a teaching degree
- The American Assembly for Men in Nursing ([www.aamn.org](http://www.aamn.org)) which offers scholarships to men pursuing a career in nursing.
- Females and males can seek out scholarships for science, technology, engineering and math (STEM) careers at their college. These scholarships are granted through the National Science Foundation ([www.nsf.gov](http://www.nsf.gov)), the Society of Women Engineers ([www.swe.org](http://www.swe.org)) and the American Association of University Women ([www.aauw.org](http://www.aauw.org)) which provides scholarships for girls who wish to pursue STEM careers.

## Part V. Additional Recommendations

It should be clear to every CTE administrator, teacher and counselor in Indiana why non-traditional student enrollment and completion is important. It is not just a matter of meeting a federal requirement, but a long term goal that allows all students – regardless of gender – to pursue career areas of interest without the fear of bias or societal pressure to conform to traditional gender stereotypes.

More than just an ethical issue, educators as well as students must also know the distinct benefits that can accrue to females who want to be an electrical apprentice, for example, or males who wish to work as a registered nurse. Many employers offer significant advantages to non-traditional applicants, including preferential consideration for employment, financial bonuses, and opportunities for internal career advancement. These advantages can make a huge difference.



State and local CTE personnel have tried many strategies to change non-traditional enrollment and completion patterns and many are frustrated with the lack of change. Some hope new federal Perkins legislation will eliminate the non-traditional requirements, but newly proposed legislation as of mid-2016 maintains non-traditional goals.

The purpose of this study is to illuminate the situation from multiple angles with the hope that new strategies will be explored and new ideas considered.

In that vein, we offer FIVE strategies – gleaned both from the research literature and anecdotal observations – that can help Indiana CTE Districts meet their non-traditional data targets and increase opportunities for students.

- 1. Be Data Intentional.** Find your district's INTERS data and look up the most recent male and female student participation (6S1) and completion (6S2) percentages for *each* of your sending schools (if applicable). In most Indiana CTE Districts, the percentage of female students is above your locally agreed upon target, while the percentage of males is low (or zero in some cases). Remember, it is the combination of your male and female percentages that factors into your district's overall performance percentage. Dig deeper to examine which *specific courses* have the lowest percentages. These courses and these schools are your targets.

- 2. Brainstorm Creative Recruitment/Enrollment Strategies.** Here are just a few ideas:
- *Change Course Titles.* Though schools and districts must use state approved course titles and numbers when reporting enrollments, you have the flexibility of changing course titles to better appeal to students.
    - Ask teachers and/or students to suggest alternative course names
    - What course title could appeal to both males and females?
  - *Rework Course Descriptions.* Non-traditional course and program descriptions should contain language that intentionally lists content or activities that appeal to both males and females. For example, males may want to know the challenging, competitive, or dramatic aspects of the course while females may want to know how it benefits others, includes critical thinking, and provides opportunities for growth.
  - *Enable Your Counselors.* Explain to your school counselors why non-traditional enrollments are so important and ask what you can do to help counselors convey this to students. Ensure that counselors understand how your non-traditional courses appeal to and support both genders and why CTE programs need both genders to enroll. Be sure to give counselors good wage and demand data that shows the benefits of non-traditional occupations for both genders.
  - *Ask Students for Suggestions.* Set a schoolwide or district-wide goal that no program will have less than 25% of both genders represented. Then ask students how to accomplish the goal. Make it competitive. Engage students in brainstorming ideas, developing and implementing the strategies, and then evaluating how well they work.
- 3. Proactively Reach Out to Students Expressing Interest.** Connect with your school counselors to review student interest inventory results (e.g. Indiana Career Explorer offers free interest inventory assessments to Indiana schools). Identify students whose career interest inventory results are aligned to non-traditional career areas. Ask the counselor, non-traditional students, or the non-traditional teacher to reach out to those students with:
- Information about non-traditional courses related to their interests
  - An invitation to preview or “job shadow” a related non-traditional class
  - An invitation to a summer camp related to non-traditional course or program, or to an area non-traditional career fair
  - Career information such as wages and the demand for non-traditional employees
  - Small group information sessions/discussions
- 4. Find and Remove Potential Barriers.** Conduct a climate audit or “walk through” of your non-traditional classrooms. Take note of any items that might be a “red flag” for students of the non-traditional gender. Here are some examples:
- Is there a locker room/changing space/restroom in or near the classroom that might be uncomfortable for the non-traditional gender to use? Is it private? Does the door lock?

- Do posters, pictures/paintings on the walls, textbooks, or other classroom materials show students/adults of both genders?
- Do classroom wall paintings, pictures, posters give off a predominant “masculine” feel (e.g. mancave) or “feminine” feel (e.g. boutique)?
- If students have uniforms, required clothing, or gear, could the garments themselves or the colors be off-putting to the non-traditional gender? (e.g. pink lab coats in a Health Science class or used coveralls for an Auto Services Tech class)
- Are there areas in the classroom space where female students may feel unsafe if the class has a majority of males?
- Does the instructor refer to “my girls” or “us guys” or other terminology that caters more to the predominant gender?

**5. Provide Supports for Non-Traditional Students.** Students face the risk of being harassed, made fun of, or otherwise challenged for enrolling in a non-traditional CTE course or programs. That is why it is essential that students clearly know – even before enrolling – that several layers of support are available to non-traditional students.

Level One: Risk Aversion

Ensure that non-traditional students know:

- The school, the administration, and CTE teachers will not tolerate bullying, sexist comments, or intimidating actions that embarrass or demean students in non-traditional courses. These reassurances – offered on the front end of enrollment through a written statement in the course description, or a small group meeting with non-traditional enrollees – will help not only with enrollment, but also retention.
- The school’s process for reporting harassment of any type (e.g. sexual, verbal, physical, or other) to a school official. Inform students of the process of reporting incidents in a confidential way that protects the student, and explain what happens after issues are reported. Knowing these procedures are in place and how they work can be empowering for non-traditional students.

Level Two: Ongoing Support

It can be especially helpful for non-traditional students to have others to talk with about their classroom experiences. All non-traditional students should know that one or all of the following support mechanisms are in place:

- **TEACHERS.** Construct a way for students to inform their CTE teachers how they are doing or if they are facing difficulties. This could be as simple as the teacher saying, “come and see me after class” or through more elaborate means such as a “suggestion box” or an email. Teachers may send out a monthly “checkup” email to non-traditional students just to see how they’re going.
- **COUNSELORS.** Ask school counselors to check in occasionally with non-traditional students to “see how things are going.” Make sure students know they can talk with their counselor if they are having any troubles.

- **SOCIAL NETWORKS.** Connect with other non-traditional students in other CTE districts by creating an online community or social media presence (e.g. Google Community, Instagram, Twitter account, etc.) for non-traditional students with no other supports. For example, males enrolled in Early Childhood Education or girls in Welding.

## **Part VI. Conclusion**

The struggle to increase non-traditional student enrollment and completion is an ongoing one. Success one year – as great as it is – does not automatically generate success the next year.

As difficult as the work is, the national focus on challenging gender inequities does not appear to be going away soon. Newly proposed federal legislation to renew the federal Carl D. Perkins Act continues the current focus on non-traditional student enrollment and completion data collection and reporting. Though the two progress indicators may be combined into one the proposed language still requires states and local CTE districts to report on "the percentage of CTE concentrators in career and technical education programs and programs of study that lead to nontraditional fields."<sup>15</sup>

Despite the requirements, the most difficult aspect of this effort – changing a school culture – albeit a community culture – is worth the effort. No student should grow up in a community where they are afraid to explore a career area that interests them because of their gender.

And though the research and student opinions gathered through this study are encouraging, the evidence also indicates our work is not done. Rather than wishing this metric goes away or ranking it as a lower priority, continuing to address non-traditional student participation remains vitally important.

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<sup>15</sup> Section 113 (a) (2) (A) (v) of U.S. House of Representatives Education and the Workforce Committee's "Strengthening Career and Technical Education for the 21st Century Act" reauthorization of the Carl D. Perkins Act

## Appendix A

### CTE Student Survey Questions – All Students

#### Question 1:

Please specify your gender below (e.g. male, female):

- (Open response)

#### Question 2:

What CTE course or program interests you the most right now (if any)?

- (Open response)

#### Question 3:

Courses in which a majority of students are of one gender are considered “nontraditional” for persons of the opposite gender. For example, if a majority of males are enrolled in a Welding course, then females are considered "nontraditional" for that course. Would you consider taking a CTE course in which a majority of the students enrolled in the course are of the opposite gender?

- Yes
- No

#### Question 4:

If you responded “yes,” please say more about your answer

- (Open response)

#### Question 5:

If you answered "no" to Question 3, what factors might prevent you from enrolling in a CTE course that is nontraditional for your gender? (mark all that apply):

- I would prefer a course with students of my own gender or a mix of genders
- The possibility of getting teased or picked on from my friends
- My parents would not be supportive/would not like it if I enrolled
- I would be uncomfortable not having other students of my gender in that class
- Some might perceive me as gay or effeminate or masculine
- I would just feel uncomfortable
- The possibility of being singled out as the “token” male/female in the class
- Other (please specify)

#### Question 6:

What factors might help you consider enrolling in a CTE course that is nontraditional for your gender? (mark all that apply):

- I was given more information about the course
- I had a clear understanding of what was involved in the course (or expectations were clear)
- If the CTE/career area led to occupations where I could make a good living

- Other students of my gender are also enrolled in the course
- My parents were OK with me enrolling in the course
- If the CTE teacher for the course was the same gender as I am
- There is a nontraditional student support group/network at the school I could join
- Other (please specify)

**Question 7:**

Did you ever drop or switch out of a CTE course which had a majority of students of the opposite gender?

- Yes
- No

**Question 8:**

What does your school do (if anything) to help students of either gender feel comfortable in enrolling in any CTE course or program regardless if it is traditional or nontraditional for that gender?

- (Open response)

**Question 9:**

What are ways your school could help students of either gender feel comfortable in enrolling in any CTE course or program regardless if it is traditional or nontraditional for that gender?

- (Open response)

## Appendix B

### CTE Student Survey Questions – Non-Traditional Students

**Question 1:**

Please specify your gender below:

- (Open response)

**Question 2:**

If you are or were enrolled in a non-traditional CTE course or program, please list the name of the course below.

- (Open response)

**Question 3:**

Did you have any hesitations or concerns when you enrolled in the non-traditional CTE course or program?

- (Open response)

**Question 4:**

If you answered “yes” please say more about your answer:

- (Open response)

**Question 5:**

Were there any factors that helped you decide or made it easier for you to enroll in the non-traditional CTE course or program?

- (Open response)

**Question 6:**

If you answered “yes” please say more about your answer.

- (Open response)

**Question 7:**

Did any adults question your decision to join the class?

- (Open response)

**Question 8:**

If you answered “yes” what did they say and how did you respond?

- (Open response)

**Question 9:**

Did any of your friends make derogatory comments?

- (Open response)

**Question 10:**

If you answered “yes” what did they say and how did you respond?”

- (Open response)

**Question 11:**

If you had or have a CTE instructor whose gender is non-traditional for the course or program, was that helpful?

- (Open response)

**Question 12:**

Please describe briefly what your experience was like to be the minority gender in your CTE course or program.

- (Open response)

**Question 13:**

What could CTE programs do to make it easier for other students like you to enroll in courses or programs that are non-traditional for their gender?

- (Open response)

## Appendix C

### CTE Director Survey Questions

**Question 1:**

What strategies, practices or approaches (if any) have been successful in MARKETING or RECRUITING students for non-traditional CTE courses and programs?

- (Open response)

**Question 2:**

What strategies, practices or approaches (if any) have been successful in increasing the number/percent of students ENROLLING in non-traditional CTE courses and programs?

- (Open response)

**Question 3:**

What strategies, practices or approaches (if any) have been successful in increasing the number/percent of students who COMPLETE non-traditional CTE programs (defined as CTE concentrators who have taken the state-approved pathway assessment approved by the IDOE)?

- (Open response)

**Question 4:**

What strategies, practices or approaches, of note, have NOT worked in recruiting, enrolling or retaining students for non-traditional CTE courses or programs (i.e. what would you suggest NOT doing)?

- (Open response)

**Question 5:**

What resources (e.g. websites, posters, videos, etc.) and/or programs (e.g. STEM Summer Camp for Girls) would you recommend for improving non-traditional student recruitment, enrollment and/or retention?

- (Open response)

**Question 6:**

What resources (e.g. websites, photos, posters, videos, etc.) would you LIKE to have created in order to help you with your non-traditional student recruitment, enrollment and/or retention efforts?

- (Open response)

**Question 7:**

Are there practices or procedures schools, communities, or the state could change that would help with your non-traditional student recruitment, enrollment and/or retention efforts?

- (Open response)

**Question 8:**

Are there non-traditional CTE teachers in your district who you would recommend we contact for additional information or recommendations? (If so, we would work with you before contacting those teachers).

- (Open response)

**Question 9:**

Do you have additional comments or information regarding non-traditional student recruitment, enrollment and/or retention?

- (Open response)

## Appendix D

### 2014-15 Indiana CTE District Non-Traditional 6S1 Participation %'s by Gender

CTE District #	Male	Female
0	5.17%	46.91%
2	1.92%	81.20%
3	19.47%	31.53%
4	7.99%	83.57%
5	4.08%	49.14%
6	0.99%	71.68%
7	13.48%	26.91%
8	0.78%	70.29%
9	0.72%	77.59%
10	2.86%	74.85%
11	5.44%	79.32%
12	0.50%	91.26%
13	0.30%	77.54%
14	1.92%	76.38%
16	4.39%	40.23%
17	0.83%	62.70%
18	7.89%	55.15%
19	1.32%	65.80%
20	3.86%	53.16%
21	3.01%	67.05%
22	1.80%	52.96%
23	1.54%	77.22%
24	1.85%	75.20%

25	2.37%	64.49%
26	1.87%	60.00%
27	5.16%	60.63%
28	7.97%	64.98%
29	1.71%	65.81%
30	5.64%	55.32%
31	1.96%	75.69%
32	6.41%	54.47%
33	0.30%	78.01%
34	1.87%	58.92%
35	5.09%	40.48%
36	0.75%	79.40%
37	3.65%	70.70%
38	0.29%	72.30%
39	0.00%	0.00%
40	4.55%	63.38%
41	1.67%	66.11%
42	0.84%	74.97%
43	1.22%	85.71%
44	8.59%	54.40%
45	2.18%	66.34%
46	1.14%	80.20%
47	1.14%	85.53%
48	0.59%	72.80%
49	1.66%	62.84%



## Appendix E

### USDOE Perkins 6S1 Non-Traditional Performance Levels by State 2014\* Ranked by 25% Minimum for Both Genders and by State Performance

Each state and U.S. Territory that receives federal Carl D. Perkins funding for CTE programs must annually report statewide data on eight secondary core indicators including the percentage of non-traditional students enrolled in CTE programs (called 6S1).

The following graph lists states' percentage for the 6S1 indicator starting with states with a minimum of 25% non-traditional enrollment for both males and females and then by state performance level. Note that the data does not allow for an accurate comparison of state performance since 6S1 calculations may vary from state to state.

State	State Performance	Male	Female
Washington	75.49%	76.88%	73.85%
Utah	55.48%	57.50%	53.41%
Idaho	43.09%	47.44%	36.85%
South Dakota	48.66%	43.79%	53.89%
Connecticut	38.24%	42.12%	33.07%
California	35.93%	41.49%	33.08%
Illinois	34.70%	41.24%	27.25%
Nebraska	42.43%	37.37%	48.64%
Kentucky	37.67%	36.74%	38.82%
Delaware	34.96%	32.94%	37.31%
Virginia	34.42%	29.31%	41.29%
Maryland	32.40%	27.71%	38.04%
Nevada	37.65%	26.65%	52.88%
New Jersey	34.26%	26.45%	44.51%
Texas	45.22%	26.14%	66.12%
Alaska	33.82%	25.90%	48.15%
Missouri	27.33%	25.65%	28.90%
Colorado	46.80%	71.05%	13.74%
West Virginia	34.52%	48.31%	17.98%
Montana	23.40%	23.63%	23.06%
Hawaii	35.78%	22.02%	58.32%
Iowa	40.01%	21.02%	73.54%
Georgia	18.32%	17.85%	18.83%
Florida	37.02%	17.01%	55.52%
Arizona	36.86%	15.41%	59.52%
North Dakota	21.74%	14.87%	31.96%
North Carolina	32.60%	14.18%	60.47%
Minnesota	28.03%	13.66%	62.91%
Massachusetts	21.86%	13.39%	25.15%

<b>Mississippi</b>	<b>17.29%</b>	13.22%	21.90%
<b>Tennessee</b>	<b>31.68%</b>	13.07%	53.99%
<b>New Mexico</b>	<b>34.70%</b>	12.85%	65.81%
<b>Ohio</b>	<b>30.93%</b>	11.56%	56.88%
<b>New York</b>	<b>37.04%</b>	10.35%	72.69%
<b>Oregon</b>	<b>33.05%</b>	10.28%	67.46%
<b>Arkansas</b>	<b>30.15%</b>	9.81%	62.51%
<b>Wyoming</b>	<b>31.58%</b>	8.62%	72.55%
<b>Rhode Island</b>	<b>39.24%</b>	8.47%	79.06%
<b>Maine</b>	<b>22.30%</b>	7.65%	57.31%
<b>Oklahoma</b>	<b>10.08%</b>	7.19%	13.71%
<b>Pennsylvania</b>	<b>16.48%</b>	5.34%	35.72%
<b>Wisconsin</b>	<b>22.08%</b>	4.94%	58.74%
<b>New Hampshire</b>	<b>21.47%</b>	4.55%	53.96%
<b>Alabama</b>	<b>19.81%</b>	3.88%	62.38%
<b>Louisiana</b>	<b>19.81%</b>	3.88%	62.38%
<b>Indiana</b>	<b>27.37%</b>	3.37%	66.12%
<b>Vermont</b>	<b>17.51%</b>	1.45%	58.77%
<b>South Carolina</b>	<b>14.32%</b>	1.01%	45.66%
<b>Kansas</b>	<b>24.54%</b>	0.74%	75.72%
<b>Michigan</b>	<b>26.84%</b>	0.29%	85.48%
<b>District of Columbia</b>	<b>37.87%</b>	0.00%	97.68%

\*Each state's definition of 6S1 is available at <https://perkins.ed.gov/pims/DataExplorer/Faupl>