Arlington Public Schools

Career, Technical, and Adult Education Program Evaluation Report:
Executive Summary

Prepared by the Office of Planning and Evaluation
Response from the CTAE Office

March 2017

Career, Technical, and Adult Education Program Evaluation: Executive Summary

About the Evaluation

This CTAE evaluation began in 2014-15, during which a planning committee met regularly to develop the questions that would guide data collection. Committee members included staff from APS Planning and Evaluation, the CTAE Office, other central office and school staff, as well as community members. Data collection occurred in 2015-16 and the evaluation proceeded in 2016-2017.

The study centered on two overarching questions: (1) How effectively was the CTAE program implemented? and (2) What were the outcomes?

The study concludes with a detailed report, which can be found at www.apsva.us/evaluationreports, and this executive summary.

About the CTAE Program

The CTAE Office, whose mission is to "link education and career skills for the creation of opportunities," operates within the Department of Instruction (DOI) to meet APS Strategic Plan goals and DOI process goals. CTAE offers services for APS K-12 students as well as programs that address early childhood, family, and adult education needs and interests in the community:

- Agriculture
- Business and Information Technology
- Computer Science
- Family and Consumer Sciences
- Health and Medical Sciences
- Marketing Education
- Military Science
- Technology Education, Trade and Industrial Education
- Adult and Community Education (Arlington Community Learning)
- General Education Development (GED)

The CTAE Office is staffed by a director, a K-12 curriculum supervisor, two STEM teacher specialists, an adult education coordinator, and a GED coordinator. Additional staff includes the supervisor of the Arlington Education and Employment Program (REEP), two administrative assistants, one full-time registration clerk, and a part-time Project Y.E.S. coordinator.

Sixty CTE teachers (17 at the middle schools and 43 at the high schools, including the Career Center and Arlington Tech) instruct students in six CTE program areas.

The CTAE Office provides support (curriculum, materials, program development and revision, and professional development), particularly in fast-changing, high-demand areas such as cyber security, STEM integration in CTE, industry certifications, and Microsoft.

Connections with Other APS Processes and Initiatives

A number of systemic APS processes, initiatives, and resources beyond the scope of CTAE-specific programs and services have significance to this evaluation's findings and the district's success in preparing students for careers. A cross-departmental team tasked with identifying these connections pinpointed the following:

- *The APS Strategic Plan.* In 2017-18, APS will develop its next six-year strategic plan, with staff and community involvement, to identify focus areas for school system improvement.

- *The Whole Child framework.* APS will develop its next strategic plan around this framework, which calls for students to be actively engaged in learning and connected to the school and broader community.

- *Profile of a Graduate.* Starting with first-time ninth graders in fall 2018, a life-ready Virginia graduate must be able to**:**

    o Achieve and apply appropriate academic and technical knowledge (content knowledge);

    o Demonstrate productive workplace skills, qualities, and behaviors (workplace skills);

    o Build connections and value interactions with others as a responsible and responsive citizen (community engagement and civic responsibility); and

    o Align knowledge, skills and personal interests with career opportunities (career exploration).

- *A2E (Aspire2Excellence).* APS' academic planning process begins early in elementary school and continues throughout middle and high school. Students discuss their educational and career goals and engage in career exploration. Related events revisit student goals, including:

    o Transition events

    o Counselor visits to feeder schools

    o Classroom visits by counselors

    o Student academic planning work using Naviance

- *Arlington Tech.* This new, all-day, full-*time high schoo*l, located at the Career Cente*r, provides han*ds-on, project-based, and work-based learning experiences. Here, as well as elsewhere in the school district, students can earn college credits through dual-enrolled academic and CTE courses.

- *Personalized learning.* Personalized learning empowers students to leverage technology and support learning through flexibility and choice while ensuring instruction and outcomes are linked to each student's unique talents, skills, and interests.

FINDINGS

Career Exploration and Awareness of CTE Opportunities

FINDING #1.

Teachers and students have different perceptions, at different levels, about the frequency that career exploration takes place during instruction. High school students planning to attend a four-year college are less likely than other classmates to be familiar with or take advantage of CTE course options.

Teachers.   When teachers were asked how frequently they covered career exploration in their instruction, survey responses varied by teacher type and level.

- High school CTE teachers were the most likely (75%) to indicate that they cover career exploration frequently (daily, once a week, or once a month).
- Of middle school CTE teachers, 69% reported covering it frequently.
- Teachers of other subjects selected once or twice a year/never at these rates: 73% elementary, 69% middle school, 24% high school.

Students.   A parallel survey asked students how frequently they learn about different careers at school.

- Almost half of elementary students reported the highest frequency of covering career exploration (once a week or once a month).
- About a quarter of the secondary students reported this frequency.
- Among high school seniors, 79% who took a CTE course said they were encouraged to explore career opportunities, compared to 65% of non-CTE students.
- 39% of middle school students and 53% of high school students reported that their counselor helps them with their academic plan.

Seniors. In the 2016 annual survey that asks high school seniors about their post-graduation plans:

- Approximately 83% reported they planned to attend a four-year college. This group had the lowest rate of participation in CTE courses during their time in APS.

- Seniors who planned to attend a four-year college were less familiar with the program and less likely to know that a CTE course could be used as a fine or practical arts credit.

- Among those who hadn't taken a CTE course, the most common reason was that they could not fit a CTE course into their schedule.

- *Other.*   Counselors are working with teachers to help them tie careers to classroom lessons/topics. An important note is this is *not* a CTE-specific initiative; career exploration is expected to take place across all classrooms. Career awareness and knowledg*e about CT*E options are important components of the APS academic planning tool, Aspire2Excellence. Further, the upcoming Profile of a Graduate calls for students to gain a number of work-related skills and attributes.

Work-based Learning

FINDING #2.

Students, teachers, and business partners are almost universally positive about the CTE's work-based learning opportunities.

APS partners with the Urban Alliance, Virginia Hospital, Chamber of Commerce, Linden Resources and other organizations to offer work-based learning opportunities for students. We also offer senior projects and related career exploration experiences at a work site. Study results include the following:

- About 12% of high school CTE students participated in some form of CTE work-based learning opportunity, and almost all gave positive feedback about the experience. Among those who hadn't participated, about half were not aware of the opportunities.
- Most CTE teachers are working with community and business partners, and high school CTE teachers are positive about the value of community and business partnerships to the program.
- Business partners who provide work-based learning opportunities to APS CTE students indicated that they both provide and receive benefits from the relationship.

Workforce Alignment

FINDING #3

Current CTE offerings align with many local job openings, and an analysis of workforce needs highlights other areas for APS to consider in future reviews of CTE offerings.

APS CTE courses are most likely to align with job openings requiring either a high school diploma or a bachelor's degree. The most popular job openings requiring a high school diploma were retail salespersons and first-line supervisors of retail sales workers, which align with **Introduction to Business and Marketing**; and first-line supervisors of food preparation and serving workers, which align with **Culinary Arts and Science**.

The most popular job openings requiring a bachelor's degree were software developers and computer systems analysts, aligned with **Computer Science**; network and computer systems administrators, aligned with **Intro to Information Technology**; and information security analysts, aligned with **Cyber Security**.

Commonly required **hard and soft skills** include oral and written communication skills, Microsoft Office, detail-oriented, marketing, creativity, and problem solving, all of which are aligned with CTE offerings.

APS does not currently offer coursework aligned with several of the job openings, required skills, and required certifications identified in this analysis. These are noted in Section 4 of this report.

Instruction

FINDING #4.

Observations of CTE instruction show a high level of classroom organization, instruction that authentically models the world of work, and project/problem-based learning. Analysis and inquiry along with high-level questioning stood out as areas for future focus.

Observers used the Classroom Assessment Scoring System (CLASS) to assess student-teacher

interaction.

- Overall, **classroom organization** was strong across CTE courses, and **student engagement** ratings were in the high end of the middle range, showing a mix of effective interactions with some periods when interactions are not effective.
- **Emotional support** and **instructional support** were stronger at the middle school level, with **instructional support** falling into the middle range for both levels, again showing a mix of effective interactions with some periods when interactions are not effective.
- **Analysis and inquiry** was the lowest-rated dimension for either level. This refers to students' engagement in **higher-level thinking** skills.

Observations using a CTE-specific observation tool showed that:

- Teachers frequently and **authentically modeled** the world of work and provided **project/problem-based learning** opportunities.
- **High-level questioning**, teacher modeling with student practice, and lecture occurred less frequently.
- High-level questioning was also an element more likely to be rated "developing/needs improvement," particularly at the middle school level.
- Observed lessons across middle and high school CTE courses were more likely to include **multidisciplinary connections** to reading and writing than to science and social studies.
- Teachers were more likely to use **technology/equipment** than were students, and more likely to use it in general at the high school level.

Safety

FINDING # 6.
Safety procedures were evident in most classrooms and employed inconsistently across school levels.

Teachers modeled safety procedures on average in 8 out of 10 middle school observations and 9 out of 10 high school observations. Students followed safety procedures in every middle school observation, and in 8 out of 10 high school observations.

Career Credentials

FINDING # 7.
Available data suggests that CTE students successfully attain career credentials at a high rate.

Survey responses indicate that teachers inconsistently use CanDo, an online tool that the Career Center developed to allow teachers to enter and track student competency attainment. In lieu of data from CanDo, this evaluation references the competency rate from the 2015-16 CTE Annual Performance Report produced by VDOE. That rate, which is for CTE completers only and is based on grades rather than individual competencies, increased to 93% in 2015-16 from 85% in **2013-2014.**

College Advancement

FINDING # 8.

CTE students have many opportunities to earn college credit, and the number of students taking advantage of these opportunities is growing overall. Success rates and demographic representation vary by specific opportunity.

Students obtain college credit through CTE **dual enrollment courses** at a very high rate, between 96-100% in the last three years. As the number of students taking dual enrollment courses has increased, the gender gap has decreased considerably, and girls were underrepresented by three percentage points in 2015-16.

The number of students taking the **AP Computer Science** exam and the percentage passing it (44% in 2015-16) has increased over the last three years. The percentage of students passing the **IB CTE exams** has increased and the number of students taking the exams has dropped slightly.

CTE Completers

FINDING #9.

A growing proportion of CTE completers are earning advanced studies diplomas. This proportion varies for different student groups.

The percentage of CTE completers earning an advanced studies diploma increased from 48% in 2011-12 to 56% in 2015-16. In the last two years, a gap has developed between male and female students, with a 12-point difference in the percentage of males (60-61%) and females (48-49%) receiving an advanced studies diploma. .

Post-High School Transitions

FINDING #10.

Feedback from high school seniors and alumni indicates that most alumni with CTE experience attend a four-year college, and many also work full-time or part-time.

Most **seniors** indicated that they planned to attend a **four-year college** regardless of their CTE participation; this rate was higher among seniors who had not taken a CTE course. Those who had taken a CTE course were more likely than other seniors to indicate they planned to attend a **two-year college** (23% vs. 10%) or **work** (5% vs. 1%).

Among **alumni** who had graduated the previous year and completed a CTE sequence while at APS, most reported that they were currently a full-time student, and this increased to 94% in 2015. The percentage of students reporting that they were attending a four-year university also increased (62% in 2015).

Among alumni who had graduated three or four years previously and completed a CTE sequence while at APS, most indicated that they were currently enrolled in a four-year college. About a third indicated that they are working full time and a quarter indicated that they are working part time.

FINDING #11.

APS alumni who completed a CTE sequence were positive about the impact of the CTE program on their current work or education status.

Most respondents to a survey of APS alumni who were CTE completers reported that the CTE program had a strong impact on their **level of preparation** for their current work or education status, and an additional third indicated that it had a moderate impact. Similarly, almost all respondents to the state alumni survey indicated that they were satisfied with the preparation they received in their CTE coursework for their further education or employment.

Alumni who reported that they were currently working gave positive feedback about the **relevance of their CTE sequence** to their job, and those who reported that they were currently a student were positive about the relevance of their CTE sequence to their area of study.

Echoing current CTE students, the alumni who had participated in a **work-based learning opportunity** were positive about the experience, with almost all indicating that the opportunity they had participated in had been valuable; and that the experience had provided them with work-related skills, helped prepare them for a career, and helped them determine a career path.

CTAE Resources

FINDING #12.

CTE teachers across the board are satisfied with support from the CTAE Office in the areas of communication and professional development. Satisfaction with other areas of support, as well as perceptions of equipment needs, varies by CTE program area.

- Teachers at both the middle and high school levels indicated high rates of satisfaction with support from the CTAE Office in the areas of communication (78-88%) and professional development (87-88%).

- High school teachers also had a high rate of satisfaction with support for technology (78%), while middle school teachers were less satisfied with that support and with funding for supplies (both 32%).

- Teachers of trade and industrial courses were the most likely to report that the tools, equipment, and supplies in their classroom met industry standards.

- Computer science and Family and Consumer Sciences teachers were most likely to report that their equipment is up-to-date.

- Teachers of business and IT and trade and industrial courses were most likely to report that the process for updating computers and laboratory machinery equipment was efficient.

FINDING #13.

The CTAE program has a wealth of data collection procedures and tools in place and is working with Information Services to make these more accessible, reliable, and actionable.

Current data processes. CTAE uses a number of different tools to collect and manage program data, making it difficult to amalgamate the information needed to monitor student progress, compare practices across classrooms, and extract data for state and federal reports.

- Most teachers use CanDo to track student competencies, but teacher practices are not consistent and the data does not feed into the student information system.
- Teachers report that data collection for the local CTE program evaluation portfolios is cumbersome.
- Almost one-third of CTE teachers reported that they have access to some but not all of the data they need.
- Some data used for state and federal report is collected outside of an APS system of record.

Merging data systems. The CTAE office continues to work with the Information Services (IS) department to implement a single competency tracking system and a credentialing tracking system in the present student information system. The 2016-17 school year is the first the CTAE Office was able to upload all state- approved credentialing results in the student information system. Teachers and counselors are now able to see which students have taken and passed a state approved credential.

Pilot. This spring a group of teachers will pilot the new competency tracking system in the student information system. The system will allow teachers to tag assignments to the related competencies to ease the reporting requirements. From these data teachers will be able to better review assessment data and provide students the support they need to be successful.

Individualized Student Alternative Education Plan (ISAEP)

FINDING #14.
High school counselors are familiar with ISAEP and refer students to the program if it is a good fit for the student.

ISAEP is one of a number of programs that APS uses to prevent students from dropping out of school. A small number of students participate in ISAEP. High school counselors and directors of counseling are familiar with the program and refer students to ISAEP when it is a good fit for the student's needs. They see it as best-suited for successful students who wish to be done with high school and move on.

GED pass rates for ISAEP students are reported for years when the number of students was high enough to maintain student confidentiality. In 2011-12, four out of six students attained the GED, and in 2014-15, all five students who took the test attained the GED.

FINDING # 15.

The number of students registered in adult GED prep classes has decreased while the percentage remaining for 12 seat hours or more has increased. GED attainment data is available for only a limited number of students.

The total number of students registered in adult education GED prep classes has decreased since 2011-12, while the percentage of registered students remaining for 12 seat hours or more increased from 31% in 2012-13 to 48% in 2015-16.

APS has GED attainment data only for those students who choose to report it, and it is not clear if the available data reflect the program's impact. GED preparatory programs are offered online and by a number of providers throughout the region.

RECOMMENDATIONS AND NEXT STEPS

Connections with Systemic APS Processes and Initiatives

In addition to the specific recommendations described below, APS should carefully consider this report's findings and recommendations in light of the following overarching processes, initiatives, and resources. Fundamental and systematic coordination is needed so that we can share, learn from, and build upon both our challenges and successes in a concerted manner.

- *Strategic Planning, 2017-18.* This major endeavor presents an excellent opportunity to ensure APS charts a path to better prepare students for careers.

- *The Whole Child framework.* We will build the next Strategic Plan around this framework, which calls for students to be actively engaged in learning and connected to the school and broader community.

- *Profile of a Graduate.* These new state diploma requirements call for Virginia graduates to have acquired knowledge, skills, behaviors and capabilities that qualify as attributes of a career-ready student. As the standards become effective with first-time ninth graders in fall 2018, now is the time to correlate this study's findings with the Profile.

- *A2E (Aspire2Excellence).* Counselors, teachers, and students should consistently and effectively utilize this academic planning tool—from the early elementary grades through high school—to enhance students' awareness of the meaning and value of career exploration and the availability of CTE courses.

- *Arlington Tech.* Explore ways to promote this new Career Center program among students and their families and make it more readily accessible district wide. Emphasize the potential for earning college credits by dual enrolling in academic and CTE courses

- *Personalized learning.* Personalized learning empowers students to leverage technology and support learning through flexibility and choice while ensuring instruction and outcomes are

connected to each student's unique talents, skills, and interests. The approach is pertinent to career exploration and readiness.

Career Exploration and Awareness of CTE Opportunities

RECOMMENDATION #1.

Explore and utilize opportunities within APS to increase awareness of and participation in CTE courses. Work with schools and departments to encourage career exploration opportunities for students in the classroom.

Address the finding that students reported varying degrees of familiarity with CTE courses and the ways the courses can fulfill credit requirements:

- Target communication about the CTE courses to school staff, counselors, students, and parents so that all stakeholders are aware of the opportunities and benefits.

- Work with the Student Services Office and school counselors to ensure that the academic plan process is fully implemented and incorporates discussion of students' career interests and opportunities.

- Explore ways to increase access to CTE options for all high school students, including online course options.

- Make student and counselor information resources, such as Naviance, accessible to CTAE.

- For both students and teachers, clearly connect related course planning events such as Transition Saturday and high school counselors' visits to middle schools.

Identify ways in which career exploration can be more regularly and meaningfully incorporated in instruction:

- APS should acknowledge differences in vocabulary and perceptions among students and staff regarding what "career exploration" means and why it is important, and make clear connections when it is part of instruction and academic planning.

- Provide students greater flexibility to take high school courses while in middle school, thus freeing up time in high school to explore careers.

- Embed opportunities for students to explore careers into the Whole Child plan.

- Prepare for the *Profile of a Graduate* standards (effective 2018-2019) so that APS graduates possess workplace skills and qualities, technical knowledge, and other life-ready attributes.

STAFF RESPONSE:
Staff has developed the following plan to promote career exploration as a component of each CTE class and increase student knowledge about CTE options. Career awareness information will be reviewed and shared with all stakeholders to broaden career awareness as noted below.

Action Plan for Recommendation #1			
Recommendation	**Goal**	**Measures of Success**	**Action Steps**
Explore and utilize opportunities within APS that increase awareness of and participation in CTE courses. Work with schools and departments to encourage career exploration opportunities for students in the classroom.	Develop a Communications Plan	Consistent communication message and media outlet	• Review present communication data • Meet with stakeholders to determine area of need • Meet with School and Community Relations to develop a communications plan
	Develop alternative course implementation options	Optional course delivery models	• Review online and alternative course options • Develop an optional course delivery system and pilot

Work-Based Learning

RECOMMENDATION #2.

Increase student knowledge of and participation in the positive experience of work-based learning opportunities.

CTE work-based learning opportunities provide a foundation that APS can build upon as it looks to provide more workplace and career opportunities for all students. CTAE should:

- Continue to work with Urban Alliance, Virginia Hospital Center Chamber of Commerce, and Linden Resources as well as other business and organizational partners.
- Follow up on business partners' suggestions to the program, such as increasing publicity, identifying areas for growth, taking steps to increase partnerships, and instituting processes such as having students complete a standard job application to ensure student interest and commitment.

STAFF RESPONSE:

Staff will continue to enhance the number of work-based learning opportunities for students. Communication to students and families about these experiences will also increase so more stakeholders know about these opportunities.

Action Plan for Recommendation #2			
Recommendation	**Goal**	**Measures of Success**	**Action Steps**
Increase student knowledge of and participation in the positive experience of work-based learning opportunities.	Enhance awareness of work-based learning opportunities	More students and parents will know about work-based learning opportunities	• Review information from the focus group to identify suggestions for communication. • Develop a marketing plan to enhance communication to stakeholders regarding work based learning experiences.
	Increase the number of work-based learning opportunities offered in CTE classes.	Increase the number of business partners that will provide work-based learning opportunities.	• Identify possible business partners in the different pathways and clusters. • Meet with businesses to develop a work-based learning model that works for them. • Develop an MOU for each business partner that will partner with APS.

Alignment with Workforce Needs

RECOMMENDATION #3.

CTE offerings align with many local job openings, required skills, and required certifications. An analysis of current workforce needs highlights areas for APS to consider for the future.

As we prepare to develop our next strategic plan, APS should look for opportunities to expand the variety of CTE offerings at each of the high schools. A review of workforce trends indicated potential for the following:

- Capstone engineering courses in high school
- Introduction to medical sciences
- Dual enrollment – getting both high school and college credit while in APS
- Increased flexibility of offerings
- More internship opportunities
- Change of focus from advanced coursework to Profile of a Graduate alignment

STAFF RESPONSE:

Staff will continue to review the program of studies offerings; update them according to future employment trends and student interest: and submit new offerings through the state approval process.

Action Plan for Recommendation #3			
Recommendation	**Goal**	**Measures of Success**	**Action Steps**
CTE offerings align with many local job openings, required skills, and required certifications. An analysis of current workforce needs highlights areas for APS to consider for the future.	Provide up-to-date CTE course offerings	Course offerings meet future employment trends	• Work with Advisory Committee to review POS and make recommendations • Work with WIOA Executive Director to identify future employment trends in the area
	Provide strong foundational skills in Creativity, Collaboration, and Critical Thinking	PBL lessons being implemented in CTE classes	• Embed Project-Based Learning throughout curriculum documents • Implement Project Based Learning activities once each quarter
	Implement	Increase credential pass rate	• Review course credentials regularly • Modify credential choices to stay current with industry needs

Note that data collection did not encompass coursework in departments outside CTAE. For instance, it does not capture the senior experience.

Quality of Instruction and Student Outcomes

RECOMMENDATION #4.

Explore effective ways to deliver and accurately assess higher-level questioning in CTE instruction.

Observations of CTE instruction show high levels of classroom organization, instruction that authentically models the world of work, and project/problem-based learning. Analysis and inquiry along with engagement in higher-level questioning stood out as areas for improvement.

STAFF RESPONSE:

Among the most important components of quality CTE instruction are creativity and innovation. Staff will look closely at this recommendation to promote ways to increase the analysis and inquiry within each CTE class as defined by the goals below.

Action Plan for Recommendation #4			
Recommendation	**Goal**	**Measures of Success**	**Action Steps**
Explore effective ways to deliver and accurately assess higher-level questioning in CTE instruction.	Increase Analysis and Inquiry being observed in CTE classes	Teachers are providing meaningful analysis and inquiry opportunities within the CTE class	• Identify best practice in higher order thinking skills in a CTE classroom • Provide professional learning opportunities to implement higher order think skills within CTE classes
	Determine an accurate way to assess higher order thinking skills in CTE	Use of a tool to identify higher order thinking skills in CTE	• Identify tools that will help observers see higher order thinking skills in the CTE class • Provide professional learning opportunities for observers to become more proficient at identifying higher order thinking skills
	Implement	Observe teachers providing higher order thinking opportunities to CTE students	• Share data and findings with teachers • Provide training for observers to identify higher order thinking in CTE classes. • Include examples of higher order thinking assessments and teaching and learning experiences in curriculum documents

Safety

RECOMMENDATION #5

Take steps to ensure that all CTE classrooms consistently follow appropriate safety procedures.

Although student safety is the number one concern of each CTE teacher, the goal of 100% safety compliance in every CTE class is not being met.

STAFF RESPONSE:

The CTE staff will use the following plan to accomplish the 100% goal.

Action Plan for Recommendation #5			
Recommendation	**Goal**	**Measures of Success**	**Action Steps**
Take steps to ensure that all CTE classrooms consistently follow appropriate safety procedures	Increase teacher safety compliance	Have 100% teacher safety compliance	• Determine teacher safety needs • Provide safety classes for CTE teachers each school year
	Implement	Observe teachers using proper safety practices	• Set up a standard observation cycle to visit all CTE labs consistently throughout the school year

Dual Enrollment

RECOMMENDATION #6.

Clarify the value of dual enrollment to students and families to enhance its attractiveness to a wider range of students.

While the percentage of CTE completers earning advanced studies diplomas has increased over five years, more males than females achieved this goal in the last two years. Substantial gaps also exist for LEP, economically disadvantaged, black, and Hispanic students as well as student with disabilities.

STAFF RESPONSE:

Staff will communicate with students and families about the dual enrollment opportunities that are available in the CTE classes.

Action Plan for Recommendation #6			
Recommendation	**Goal**	**Measures of Success**	**Action Steps**
Clarify the value of dual enrollment to students and families to enhance its attractiveness to a wider range of students.	Enhance awareness of dual enrollment opportunities available in CTE classes	Development of a marketing plan to increase dual enrollment awareness and value	• Meet with schools and community relations on a marketing plan.
	Increase dual enrollment opportunities at the Career Center and Arlington Tech.	More dual enrollment courses being offered	• Meet with teachers and local colleges to identify possible courses that could be dual enrolled. • Dual enroll identified courses and teachers.

Action Plan for Recommendation #6			
Recommendation	**Goal**	**Measures of Success**	**Action Steps**
	Work with underrepresented groups to enhance knowledge of dual enrollment	Enrollment increases in underrepresented groups in dual enrollment classes	• Present dual enrollment opportunities to underrepresented groups. • Enroll underrepresented students in dual enrollment courses and provide needed support for student success.

Non-Traditional Participation

RECOMMENDATION #8

Explore opportunities to increase "nontraditional" participation by boys and girls in specific CTE program areas.

This evaluation found a significant variation between boys and girls on several measures of both program implementation and student outcomes.

STAFF RESPONSE:

Staff has made a concerted effort to promote nontraditional enrollment in CTE courses. Nontraditional teachers have been hired, and afterschool opportunities to encourage nontraditional participation has helped in some CTE areas. More work is necessary as outlined in the goals below.

Action Plan for Recommendation #7			
Recommendation	**Goal**	**Measures of Success**	**Action Steps**
Explore opportunities to increase "nontraditional" participation by boys and girls in specific CTE program areas.	Increase non-traditional CTE enrollment	CTE labs look more inviting to non-traditional students	• Review class projects to ensure there are non-gender specific options • Review labs to identify ways to make labs more non-gender specific
		Non-traditional students see themselves reflected in CTE coursework	• Increase representation of non-traditional genders in community and business partners; e.g., mentors, guest speakers, etc.

Action Plan for Recommendation #7			
Recommendation	**Goal**	**Measures of Success**	**Action Steps**
	Increase Non-traditional students in the STEM areas	Enrollment increases in STEM classes and clubs	• Explore opportunities to encourage and facilitate CTE participation in CTE program areas in which specific genders are underrepresented • Provide more non-gender specific STEM activities
	Implement	Enrollment increases in Non-traditional CTE classes	• Set goals with teachers • Provide support to address lab issues • Work with teachers to develop non-gender specific activities

Resources: Utility of Data Systems

Recommendation #8.

Clarify goals related to CTAE data and develop an actionable data collection and reporting system that supports monitoring and implementation of CTAE programs.

The CTAE Office needs to rethink how it is using data resources, with the goal to limit the number of separate systems that teachers need to work with and thereby create a consistent approach for monitoring student progress, providing data for program oversight and teacher collaboration, and building state and federal reports from the same data systems.

CTAE is working with Information Services to:

- Identify reports that are:
    - mandated by APS, state, and federal reporting requirements
    - needed to ensure consistency in course content and delivery of instruction
    - useful for school staff to have for planning purposes
    - useful for central office staff to have for planning purposes
- Simplify data collection processes with the goal of reducing the number of "locations" teachers must enter data and generally easing the burden of data collection.
- Develop standard reports for use by central and school-based CTAE staff to address questions enumerated in first bullet.
- Develop capacity among staff that enter and access this data.

STAFF RESPONSE:

Staff has developed the following plan to address the findings and implement the above recommendations. Staff will present any necessary policy changes and/or budget requests as appropriate.

Action Plan for Recommendation #8			
Recommendation	**Goal**	**Measures of Success**	**Action Steps**
Clarify goals related to CTAE data and develop an actionable data collection and reporting system that supports monitoring and implementation of CTAE programs.	Identify relevant data needs of teachers and state reporting	Identified list of CTE data needs	• Review state and federal reports to identify state data needs • Develop a list of CTE data to inform instruction • Identify standard reports that are needed
	Reduce data entry locations	One data entry system that collects and reports needed data	• Review data needs with IS • Identify missing data points • Develop an input system with IS
	Implement	Data collection system that meets the teachers' needs and the CTE office reporting needs	• Implement systems in Synergy • Develop reports that are identified as needed • Train teachers and staff to use system