

MEMORANDUM

TO: Arlington School Board
FROM: Career, Technical, and Adult Education Advisory Committee
DATE: January 10, 2014
SUBJECT: Non-Recommendation Year Report

Current Year Activities:

Significant activities for this year include:

- Coordinating the expanding APS-NOVA partnership, emphasizing Dual Enrollment, Pathways to Baccalaureate, and the SySTEMic Solutions programs;
- Expanding CTE STEM learning opportunities including courses, camps, and club activities in all grade levels;
- Maximizing professional certifications and licensure opportunities (industry credentialing) for students in CTE courses such as EMT, Workplace Readiness, Financial Literacy, and others;
- Exploring online and blended course options that maximize participation, regardless of students' location or schedule limitations and making use of existing online resources such as those available from CISCO;
- Conducting program monitoring and evaluations to assess CTE programs and align them with business/industry expectations and state requirements;
- Developing and implementing faculty professional development in integrative STEM teaching and learning;
- Effectively integrating technology in all CTE courses within the context of the curriculum; and
- Coordinating expanded participation in REEP and other Adult Education programs in new locations.

Update on Previous Recommendations

Recommendation #1: Award dual enrollment courses with the same quality point as other advanced courses.

This was ACI's top-rated recommendation from 2012-2013. Dual enrollment courses are rigorous college courses, taught by APS faculty who are qualified to teach in their discipline at the undergraduate level. **Taking these courses offers a challenging educational opportunity to all APS students.**

Status: Awarding a full quality point for all dual enrollment courses is the next logical step in strengthening this growing and successful feature of an APS education. Quality points are still under consideration by the School Board; meanwhile familiarity with the advantages of dual enrollment has dramatically expanded and, as a result, more students are encouraged to attend college. Dual enrollment courses must meet all college requirements, as determined specifically by the curriculum area and are closely evaluated by the awarding college to ensure the course and the instructor meet their requirements. For example, the instructors must meet requirements for Virginia university faculty and exceed those for AP and IB teachers. Quality points (weighted grades) have been implemented widely to acknowledge rigor, promote advanced technical certifications, and foster increased participation in other school districts. Currently APS dual enrollment programs are established between APS and Northern Virginia Community College (NOVA), James Madison University, Shenandoah University, and Adams College, and others are being explored (e.g., Marymount University). It should be noted that dual enrollment credits through NOVA transfer to all Virginia public universities and that NOVA has implemented Guaranteed Admission Agreements and credit transfer agreements with more than 40 institutions statewide and regionally.

Dual enrolled courses now extend beyond CTE/STEM and are available in nearly every APS secondary curriculum area. Some rigorous APS courses already receive a 1.0 quality point. It was discovered that students avoid these harder courses if they do not have the quality point because even the highest grade would have a negative effect on GPA's over 4.0. Nearby jurisdictions assign between 0.5 and 1.0 quality points, trending toward the latter as familiarity grows, particularly for STEM courses and English courses that transfer to four-year degrees. In addition, NOVA has hired a dual enrollment coordinator for the Alexandria campus serving Arlington, Alexandria, and southeastern Fairfax County.

2011 – 2017 Strategic Plan Alignment:

Goal One: Ensure that Every Student is Challenged and Engaged

Goal Four: Provide Optimal Learning Environments

Budgetary Implications:

Staff time to mark appropriate students with quality point in student database.

Cost: Approximately \$300.00

Committee vote:

Yes – 16

Opposed – None

Abstention – 2

Recommendation #2: Create online learning courses in the CTAE program

The committee recommended that CTE online and blended learning courses be developed to fulfill the upcoming new “online course” graduation requirements in

the Commonwealth, and to create additional opportunities for students to explore career options, and to earn additional college credits while in high school.

Status: There are several CTE courses that currently offer online components. These include dual enrollment courses and other college credit courses at NOVA and elsewhere. The course materials are available synchronously (in “real-time”) or asynchronously and sometimes both, giving students the flexibility to choose the best time for their learning to take place. Most importantly, students may review these online materials multiple times to ensure that they have an understanding of the materials, whatever their learning style. Starting with the class of 2017, students will be required to complete an online course based on Commonwealth of Virginia requirements. Because of CTE's knowledge of online environments, a CTE course is recommended to meet this requirement.

A pilot project is planned for summer, 2014, to offer SDV 100 (College Success Skills) to students in the PRIME Internship program within the Enrichment Program. In addition to the relevant content, the course is taught in part online, and will also be combined with instruction leading to the Workplace Readiness Skills certification.

Individual teachers throughout CTE continue to expand online support and curriculum components. There have been several implementations of online learning components within APS courses in Business and Information Technology and in the Automotive Technology program.

2011 – 2017 Strategic Plan Alignment:

Goal One: Ensure that Every Student is Challenged and Engaged

Goal Four: Provide Optimal Learning Environments

Budgetary Implications:

On-line course will require additional staff to set up, support and monitor.

Staff development for online teachers.

Development of the online curriculum.

Cost: Approximately \$62,000*

**These costs are expected to be recovered through efficiencies and offset by savings in other program realignments.*

Committee Vote:

Yes – 15

Opposed – None

Abstention – 3

Recommendation #3: Continue professional development leading to the integration of rigorous academics with applied technical course content to improve student performance.

This recommendation seeks to continue integrative STEM professional development activities to increase the number of teachers participating from high school, middle school, and now also elementary school. This initiative also supports Sheltered Instruction Observation Protocol (SIOP) professional development coordinated with the ESOL/HILT program.

Status: The integration of academics within the CTE program is a logical way for students to better understand the connection of academics and the real world. Moreover, because most CTE teachers have professional backgrounds beyond their education degrees, most regularly provide an intentional and authentic integration of English Language Arts, Mathematics, Science, Social Studies, Visual and Performing Arts, Health, and also World Languages. The technical and professional labs and learning activities provide a real-world context that engages the “whole student”, most often through project-based learning and problem-based learning.

Accordingly, the CTE office established the Virginia implementation of the National Research Center for CTE (NRCCTE) Math-in-CTE program in the 2009-2010 school year. This has evolved into our own customized version called “STEM-and-CTE” and the professional development program convenes APS teachers of all subject areas to work with CTE teachers to enhance contextual integration of curricula, and to maximize the rigor of such integration. Teachers from multiple disciplines work together in year-long, transformative professional development activities aligned with research-based best practices (Darling-Hammond, 2007; 2008). The lesson plans developed during this collaboration are then published online. Through Colorado State University, this program allows APS teachers to register for inexpensive graduate credits. This year, APS elementary teachers also joined the program.

In addition, this year APS staff worked with partners to secure funding through two local foundations to develop a new pilot program in integrated Math and Technology Education at Kenmore Middle School. Students struggling in Math were enrolled in algebra and geometry-integrated technology class in which students designed and built model boats, and then a full-size boat was actually launched in the Potomac River. Staff also supported teachers in developing STEM initiatives at 15 elementary schools, including all APS Title 1 schools.

2011 – 2017 Strategic Plan Alignment:

- Goal One: Ensure that Every Student is Challenged and Engaged
- Goal Four: Provide Optimal Learning Environments
- Goal Five: Meet the Needs of the Whole Child

Budgetary Implications:

Professional development across instructional areas.

Cost: Approximately \$11,200*.

**These costs are expected to be offset by redirecting funds currently used for staff development.*

Committee Vote:

Yes – 13

Opposed – None

Abstention – 5

Recommendation #4: Further Engage the Business Community in Broader Teaching and Learning Activities

Involvement of the business and non-profit community significantly enhances technical and professional courses, curricula, and student outcomes. This initiative provides for deeper engagement that enhances both the school division and the partners.

Status: Making business connections related to CTE courses is imperative to enhance authentic opportunities for teachers and students, and to advance the core academic and technical components of a pathway. CTE teachers and staff actively participate in the Arlington Chamber’s Education and Workforce Committee, the regional Workforce Investment Board, Leadership Arlington, and Regional Workforce and Education committees. The CTE programs and CTAE Office currently have more than 200 community partners. The CTAE Advisory Committee and staff continue to explore strategies for engaging the business community directly, on a company-by-company level.

The CTAE programs plan and expect to significantly expand its partnerships in Health and Medical Sciences, IT Networking and Cybersecurity, Digital Media and in Engineering, Energy and Materials Science. New partnerships are evolving with NOVA’s SySTEMic Solutions program, as well as through increased participation in its Advisory Council (required by the Commonwealth) and a newly formed Community and Business Advisory Committee supporting the Career Center. Program funds are currently used to support outreach through meeting materials for prospective partners, social media, and high profile events such as STEM expos, robotics camps and competitions, and other events featuring student work.

In 2013-2014, the CTE program evaluation process required recruitment of 136 volunteers with sufficient expertise to examine technical and professional program areas. Involvement in program evaluation will increase familiarity with the technical and professional experiences provided by the CTE courses, and they may also lead

to many additional opportunities provided by partners through internships, job shadowing, and mentorships. Partnerships also increase teacher professionalism and community involvement.

2011 – 2017 Strategic Plan Alignment:

Goal Five: Meet the Needs of the Whole Child

Budgetary Implications:

Set up of website and preparation of materials for distribution.
Transportation for students to get to sites.

Cost: Approximately \$5000*

**These costs are expected to be offset by other program realignments.*

Committee Vote:

Yes – 12

Opposed – None

Abstention – 6

Committee members:

Dr. Diane Murphy, Marymount University, Committee Chair
Dr. John Andelin, Community Volunteer
David Bain, Viral Media Productions
Patrick Brennan, Community Volunteer
Katie Cristol, Community Member
Howard Feldstein, Arlington County Employment Center
Don Hodgen, APS Parent and Community Volunteer
Dr. Peter Joyce, MPR Associates
Dr. John Kaufhold, Deep Learning Analytics
Mohamed Mekkawi, Community Volunteer
Rosie O’Neil, Community Volunteer
Michael Shea, DevTech

CTAE Staff:

Kris Martini, Director, APS Career, Technical, and Adult Education
Shari Brown, Coordinator, Project Y.E.S
Nancy Opsut, Acting Principal, Arlington Career Center
Jim Egenrieder, STEM Education Specialist
Marilyn Faris Scholl, Supervisor, Family and Consumer Sciences
Phyllis Gandy, Business, Information Technology, Computer Science and Marketing

Suzanne Grant, REEP
Raul Matos, Coordinator, Adult Education
David Welsh, CTE Specialist, Arlington Career Center
Rona Hernandez, Administrative Specialist to the Director
Shirley Soto, Administrative Assistant

The Career, Technical and Adult Education Advisory Committee (CTAE) has 12 regular members representing community leaders, universities, the business community, former teachers, parents, scientists, EDUCATIONAL POLICY ADVISORS, and former congressional staff. The committee brings a broad range of relevant knowledge, experience, and analytical tools to its recommendation process. In addition to the Department of Instruction staff liaison, meetings are commonly attended by the various Arlington Public Schools (APS) supervisors and administrative staff from Technology and Engineering Education and STEM programs, Family and Consumer Sciences (FACS), Business, the Arlington Education and Employment Program (REEP), Adult Education, the Career Center, and Northern Virginia Community College.

The office of CTAE works within the Department of Instruction to provide programs of instruction in technical and professional education to K-12 students. The office also provides lifelong learning opportunities to adults of all ages in the Arlington community through a variety of adult education courses, and has a close partnership with the Arlington Learning and Retirement Institute (ALRI). The CTAE advisory committee focuses on ***all students***, from Pre-K through adult learners.

Expert presentations by local, state and national education policymakers are common at meetings and inform the committee's views and recommendations. Within the past year, the committee has engaged the Special Education committee chairs in an effort to coordinate recommendations and projects.

References

Darling-Hammond, L., & Bransford, J. (2007). *Preparing teachers for a changing world: What teachers should learn and be able to do* (L. Darling-Hammond & J. Bransford).

Darling-Hammond, L. (2008). Teacher learning that supports student learning. *Teaching for intelligence*, 2, 91-100.