CTE Defined: Self-Directed, Real-Life, Collaborative

Jennifer Klein

MALIK KIMBREL, A CAREER AND TECHNICAL EDUCATION (CTE) student at Riverwood International Charter School in Atlanta, Georgia, took web coding to the next level when he reached out to the founders of Code Avengers, a "gamified" learning environment that teaches coding, and ended up with a design assignment from the New Zealand startup. Self-directed learning experiences like Kimbrel's are happening every day in metro Atlanta's Fulton County Schools through the county's 32 CTE pathways.

Teachers are adjusting to a different dynamic in the classroom, too. "Students team up on major projects by claiming specific roles, such as application developer, graphic designer and project manager," says June Campbell, computer science teacher at Riverwood and Fulton's IT Pathway specialist. "It's gratifying to watch [their] enthusiasm as they work together using the design cycle. They generate solutions by combining knowledge and techniques of both computer and design technology."

Riverwood has quickly embraced this collaborative culture through a range of subjects, and students are responding with more engagement than ever.

A Competitive Edge

CTE programs across the nation are enjoying a moment in the limelight, as our culture has begun to recognize their benefits. "It's not just training kids for vocational-type jobs, we're really training kids for everything," says Sheri Smith, business management instructor and co-chair of CTE at Riverwood. Industries are looking for employees with critical thinking skills, which are hard to teach but can develop naturally in an environment where students are encouraged to think on their own, crafting their own assignments, doing their own research and teaching classmates. "It gives them a competitive edge when looking for jobs."

With Georgia placing focus on CTE pathways, Riverwood has made a special effort to develop unique programs that accommodate students with a range of interests and on all academic levels. In Smith's Business, Management and Administration Pathway classes, students focus on marketing case studies, entrepreneurship and even provide consulting services to real companies through special projects.

Down the hallway, June Campbell leads students in the IT Pathway, guiding them through courses in web design graphic design and computer science. "Students are learning HTML, CSS, JavaScript and Python with true creativity and problem-solving methods," says Campbell. "These skills allow them to make decisions about their future education and career goals."

A Customized Approach

The CTE pathways allow a more customized approach to learning, which fits in well with Fulton's strategic plan for personalized learning. After completing the third course in a pathway, students take an end-of-path assessment, which covers all three years of the pathway's curriculum. If a student

passes, he or she receives an industry or postsecondary credential.

"[Because] the programs last three years, we are trying to encourage more interest in the ninth grade year," says Yalanda Bell, head of CTE for Fulton County Schools. "That way, students can complete the pathway earlier, which frees up their schedule to start an internship."

Some students at feeder schools are even starting in eighth grade so that they can finish by the end of 10th grade and have two years for internships and other real-world experiences.

In the IT Pathway, students get hands-on experience creating websites, games and apps, amazing themselves with what they are capable of doing. "We take time to figure out what each student's interests and passions are—graphic design, programming, digital music, web design— then develop an individual learning plan that will give them the opportunity to 'major' in the field of their choice by their third year in the pathway," says Campbell. "We're helping students to discover their passions and identify their areas of strengths."

Breaking Down Walls

When students take classes that interest them and they see the immediate results of their work, they become more engaged in school … and beyond. "We start to see results very quickly, and students are motivated by how it relates to real-world careers," says Campbell.

Kimbrel, the senior in her class who began his freelance work with Code Avengers, simply e-mailed the startup and suggested its game design needed an update. "I told the company the site could benefit from a creative touch, and asked if I could show them my design work," says Kimbrel. "The CEO responded and said, 'Yes, we'd like to work with you.'"

The project has turned into a part-time paid design gig for Kimbrel, who used the opportunity as a springboard for acquiring Los Angeles-based clients. Now, he applies his graphic web design skills to create e-mail templates, advertisements and websites for just about any industry. "I learn on my own and in school, interacting," he says. "School is a big part, but I'm very self-motivated."

The Business and IT Pathways curricula at Riverwood aim to prepare students for college with more challenging projects that require critical and analytical thinking, as well as collaboration. In Smith's International Baccalaureate (IB) Business class, students collaborated with Scott Muri, Fulton's deputy superintendent of academics, to study organizational change theories. Fulton County sought help managing the change process as they transitioned to personalized learning and a one-to-one device initiative. The students acted as business consultants, helping to develop ideas on how the school system could best adapt to these changes.

"Students are talking about their different theories, which is definitely a college-level understanding, put into the perspective of education," says Bell. The students will continue studying their own school district as a client, and will eventually propose their change management methods to the school board.

These IB Business students are also creating their own companies, performing their own research, collecting data and evaluating it. "For our IB projects, we connect advanced-level students with a real business, a real mentor and real decision-making," says Smith. "We encourage real-life experience, and we want students to build relationships with people who are already working in the industry they're studying. That makes a difference."

A Shift From the Individual to the Team

The opportunity for students to engage in self-directed learning also impacts the teachers' classroom focus. In the early years of Smith's Entrepreneurship class, the curriculum focused on students building an individual business plan. Now, the class objectives have shifted to a team-building approach to developing a business plan. "We partnered with Junior Achievement (JA) this year to create a new opportunity that allows students to run a real business," says Smith. JA is providing resources, including the curriculum, guest speakers and mentors to support the teacher.

When students in her class want to participate in a Future Business Leaders of America (FBLA) competition, a co-curricular business organization and a career and technical student organization (CTSO), there is time during class to write a business plan, then submit it to the organization for review. The element of competition is enough to drive students to view the assignment as fun.

Students in Campbell's digital design class tend to organically come together and collaborate, each contributing in their individual areas of expertise. There's plenty of opportunity for team building as they work together on the FBLA-style semester project, with three teams divvying up the workload, taking on design roles such as planning, organizing, research and development, graphic design and debugging.

A Little Healthy Competition

Another major component of CTE at Riverwood involves work-based learning (WBL) programs. Campbell invites a few students each year to intern as in-house "pathway specialists" who help mentor and tutor freshmen in introductory-level pathway classes. Students compete for these positions, first passing the end-of-pathway assessment, then applying and interviewing for these choice positions just as they would a regular WBL job. Since the pathways are three years long, being a mentor to beginners is a special honor reserved for only a few top fourth-year students. Kieara Dawson, one of Campbell's senior interns, says from her own experience, "It's sometimes easier to learn from peers."

In addition to in-house and outside internships, students experience WBL opportunities through participating in CTSOs like FBLA. In the Business Management Pathway, Smith incorporates a matching curriculum to FBLA, covering topics like management, decision-making, entrepreneurship, marketing and global business when creating in-class assignments. "Students are able to go to nationals in subjects they are used to," says Smith. "We do lots of case studies and presentations in class so that kids are confident when they go to competition."

FBLA awards a large number of competitors, and Riverwood's group has done well, attending nationals for the last eight years, with recent top placings in Global Business (9th, 2013), American Enterprise (3rd, 2013) and Banking and Finance (finalist, 2014), and as a perennial winner in district and state.

In the IT Pathway, Campbell also embeds FBLA-relevant projects into the curriculum to prepare her students for competition. "I find clients (teachers and parents) who need websites built and let students plan, organize and develop a site and present their design to the client," says Campbell.

Students interested in website design meet with the client to discuss the client's needs, draw out pages, suggest content, upload photos and remain in contact throughout the process. Integrating FBLA projects into the curriculum helps the class prepare for these competitions.

Creating Skilled Future Employees

Fulton County is conscientious about keeping up with industry certification for its CTE programs. Industry certification adds validity to the program and creates future employees with definable skill

sets. For teachers to become certified as industry teachers, they must align the curriculum to state and industry standards, apply to the state, specify what they will be teaching and show their involvement with the appropriate CTSO.

Riverwood's business curriculum is approved by the Society for Human Resource Management (SHRM), for example. Examiners conducted a site visit, reviewed projects and notebooks, and concluded that teaching is aligned to industry standards. The school administers an end-of-pathway industry exam, which has a very high pass rate. "We're really teaching relevance, what they're going to need to be employable," says Smith. "The curriculum is not just aligned, the students are prepared. They are passing industry exams."

Another goal for Riverwood's CTE pathway students is to work with actual business partners in an extracurricular way. "It is important for these students to build good soft skills, too," says Campbell. "Then, after the relationship is established, the students can continue to work with the business outside the school."

The Sandy Springs/Perimeter Chamber of Commerce is a great resource, connecting the CTE program directly with area businesses for projects and internships. Smith finds real-life group projects for her IB Business class through the chamber's Business Bridge program as a warmup for their individual IB projects. Students are able to build their resumes with impressive real-world experiences with a diverse portfolio of companies.

Working with business partners and outside organizations, as well as competing with peers, all serve to strengthen these students' understanding of the relevance and rigor of the industries they are studying. Group class projects allow students to tackle a project first as a team, then sharpen those skills designing individual projects where they call all the shots. Students in real-world pathways are more engaged and eager to take learning beyond the classroom, and that's the result teachers have been striving for all along.

Jennifer Klein is a writer and media publicist focusing on education, sports and the arts. She frequently writes about newsworthy educational programs for Fulton County Schools, where she has held leadership roles as a parent and community member for the past 20 years. She can be contacted at jrayklein@gmail.com.

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