

Vol. 25, No. 1: *Great Things Happening in the New Year*

From the Director . . .

Debra Mills, Director, NCPN



Col-lab-o-ra-tion—the act of working with someone to produce or create something. Collaboration is working with others to do a task and to achieve shared goals. It is more than a word. It is an action. And we are seeing it take place at the state and national levels in the Career Pathways arena. At the national level, three agencies (*U.S. Department of Education, U.S. Department of Labor, and U.S. Department of Health and Human Services*) have come together to support Career Pathways.

All three agencies have made investments in Career Pathways such as grants, toolkits, and other forms of technical assistance to the states and local agencies. The National Career Pathways Network supports these agencies and their work and has invited representatives from all three agencies . . .

- Administration of Children and Families, U.S. Department of Health and Human Services;
- Career, Technical, and Adult Education, U.S. Department of Education; and
- Employment and Training, U.S. Department of Labor

. . . to come together on stage to present their collaborative work in Career Pathways. The 2015 NCPN Conference in Dallas will highlight and support the Career Pathways work of these national-level agencies. Having personnel from all three share their interagency work will make for an exciting conference.

For more information on each agency's work, see the links below. For more information on the NCPN conference, go to www.ncpn.info. Mark your calendar! (October 28–30, 2015).

Links to information relevant to support for Career Pathways by the U.S. Departments of Education, Labor, and Health and Human Services

- Joint Letter (http://cte.ed.gov/docs/RPOS_2012/Joint_Letter_Career_Pathways.pdf)
- 6 Key Elements (Doleta) (<http://www.workforceinfodb.org/PDF/CareerPathwaysToolkit2011.pdf>)

- National Dialogue Information (<http://www.dol.gov/nationalDialogue/>)
- Career Pathways in WIOA (<http://www.ncpn.info/2014downloads/WIOA%20and%20Career%20pathways.pdf>)
- WIOA Act (<https://www.congress.gov/113/bills/hr803/BILLS-113hr803enr.pdf>)

The California Career Pathways Trust

Providing the roadmap to college and careers . . .



The California Career Pathways Trust (CCPT) grant is a unique and highly competitive program that builds on the creation of partnerships between K–12 schools, community colleges, and businesses to identify local and regional employer needs for the present and the future. These partnership consortia then develop Career Pathways that connect the K–12 programs and community college programs to the business community through a variety of work-based learning activities such as job shadowing and apprenticeships, with the ultimate goal of employment. Once students have identified the types of careers they are interested in, the Career Pathways serve as roadmaps or plans that show the students and parents what courses they need to take at both the high school and college levels in order to prepare them for success in college and careers.

Through work-based learning, business participation, and industry-sector-specific curriculum, these programs have much more relevance to participating students than do conventional classroom courses, and they better prepare students for participation in the 21st-century workplace. These programs lead students to two-year degrees, certificates, or four-year degrees that prepare them for high-skill jobs in growing industries. The application process was a joint effort involving the California Department of Education, the California Community College System, and the California Workforce Investment Board.

The initial grant, awarded in 2014 through AB 86, was for a total of \$250 million. Of the 123 applicants, 39 were awarded grants ranging from \$600,000 to \$15 million dollars. Because of the success of the first round of funding and the demand for continuation, the legislature added another round of funding for 2015. This year’s grant is for an additional \$250 million and has reporting requirements until 2018.

A new and exciting portion of the CCPT funding will be the availability of Consortium Development Grants. The purpose of these smaller grants is to assist interested groups in examining the feasibility of creating local and regional consortia in their areas. During the first year the funding is to be used to bring groups together to discuss and explore local workforce issues and how the creation of Career Pathways can help address these shortages. The funding for the second year is to be used to start the work of implementing one or more Career Pathways.

89.5 fm, Dayton’s Home for JAZZ

Mortenous A. Johnson and Robert Menafee



Ponitz Career Technical Center, the home of WDPS-TV/RADIO, is a thriving hub of student talent and leadership ability.

A controlled, unruffled calm is in the air as the director of operations, King Jalaw Walker, sets the stage to be captured by his camera operator in the background. The final countdown to a live TV production has begun. Fast-rewind and you would have witnessed voice-talent preparing for drops, announcements, and transitions; program hosts and on-air personalities readying for live and taped programming; and the exchange of voices arising from a student-led and orchestrated team as decisions are made and the planning board is penned with names like Monk, Ella, Vaughn, Carter, Miles, Toots, Shorter, Coltrane, Grover, Tyner, and Rollins.

The Dayton Public Schools’ Ponitz Career Technology Center High School students in the Media Arts/Radio/Television cluster develop collaboration, problem-solving, and leadership skills via real-world programs that integrate learning and work. In this fast-paced professional building, students produce and host programming content for DPS TV such as board of education meetings, school spotlights, and special events coverage. They are also responsible for WDPS, Dayton’s only jazz radio station.

Posted throughout the unit, you’ll find evidence of banners scripting necessary character traits and behavioral requirements, all of which support the core of CTE. “These efforts showcase the *three R’s* of career technical education—relevance, rigor, and relationships,” exclaimed one student in the studio. With the *three R’s* as a foundation, students develop competence and a strong work ethic, which in turn generate confidence and leadership. In addition to the character reminders, a proudly displayed trophy and awards case is chock-full of students’ local and national awards. For example, in 2011 the Ponitz video production team won regional and state Business Professionals of America (BPA) competitions with a public service announcement warning of the dangers of texting while driving. Students planned and executed the entire project—developing a timeline and plan of action, writing a storyboard and script, adhering to a schedule, and problem-solving throughout the production. When students engage in such real-world activities, they experience the “fun frustration” of tinkering with a process to resolve issues. This iterative/adaptive process creates a feedback loop that ultimately serves to build genuine leadership skills and the ability to work through complex projects. Such program content, in addition to enabling students to compete in state and national contests, opens up a larger world to students and helps them stake their places in it.

Additional highlights:

- Stellar and Oscar-like statues noting Best in Show at the Tech Prep Showcase for Visual Voices (highest score in the history of Tech Prep Showcase)

- First place winners in broadcast news production team at the State of Ohio’s Leadership Conference for Business Professionals of America
- Radio Seniors recently launched the Dayton Youth Radio project in partnership with WYSO radio, producing socially relevant personal stories and highlighting regional achievers.
- The February 2013 issue of *Ohio Schools*, the magazine of the Ohio Education Association, included a feature story about **Lamarr Henry**, a recent graduate who is pursuing an undergraduate degree at the Ohio State University.
- The 2014 Television Seniors were named First in the Nation at the Business Professionals Association Conference for Broadcast News Production.



Although the program’s string of successes is primarily due to the motivation of students, in the background is a core of dedicated staffers and educators. **Mortenous A. Johnson** (aka the voice of WDPS), who provides radio voice talent, says that “what underpins student success is a cadre of dedicated and empowering teachers who go beyond the mundane, all in an effort to keep the program and students engaged with purpose and consistently focused on success.” The dynamic faculty duo of Deb Pitstick and JoAnne Viskup (aka Ms. V) play a significant role, providing time and energy above and beyond the normal instructional work day, many resources to help students improve their skills and potential, and supportive counsel and direction. Four members of the Public Information Office—Patricia Battle, Jennifer Bryant, Ken Kreitzer, and Jarrod Williams—also help to ensure that students are professionally attuned and able to remain flexible in the face of ambiguity. Each in his or her remarkable way demonstrates a constant energy that is essential for student persistence and completion.



You’re listening to the 89.5 fm, Dayton’s home for jazz.

For more information about WDPS fm, contact Joanne Viskup, Career Tech Teacher, jcviskup@dps.k12.oh.us or www.dps.k12.oh.us; Mortenous A. Johnson, mjohnson@wilberforce.edu, 937.708.5622, DPS voice talent and DPS leadership and mentor program; or Robert Menafee, robert.menafee@sinclair.edu, 937.512.2780, DPS leadership and mentor program.

Florida’s Program of Study in Biotechnology Leads to Industry Credential and Postsecondary Articulation

Tamara Mandel, Lori Wojciechowsk, and Richard O. Snyder



Over the past decade, Florida has made significant efforts to anchor the biotechnology industry as an economic driver in the state. Included in these efforts was the establishment of *Biotility*, an education and training center at the University of Florida’s Center of Excellence for Regenerative Health Biotechnology (UF CERHB).

Biotility designs and develops multi-level workforce training programs aligned with the growing and maturing needs of the industry. State and federal initiatives were instrumental in funding and structuring the development of these programs, as well as forming the basis for a strategic, statewide planning partnership between business, professional societies, state and local government agencies, and the education community. Outcomes include a secondary program in Industrial Biotechnology with an integrated industry credential, and a statewide articulation agreement.

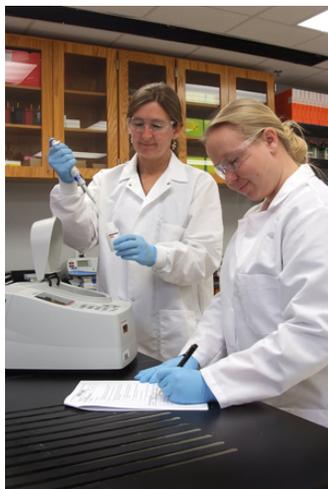
A hybrid academic/CTE secondary program in Industrial Biotechnology (#8736000) was developed by *Biotility* and its partners through the NSF PFI-funded *Florida Partnership for Industrial Biotechnology* (FPIB), and was approved by the Florida Department of Education in December 2007. Designed to teach complex concepts in science through hands-on techniques used in research and by the industry, these high-impact courses have changed the state’s educational infrastructure, which previously did not include coursework specific to careers in the bio-industry. Students in these courses contextualize and apply scientific principles to the myriad of layers and activities found along the product development continuum, and they learn of the education and career pathways available to them.

Florida was recognized in 2008 by the U.S. Department of Education (DOE) as being at the forefront of biotechnology education, and was one of six states to receive funding through the “Developing Rigorous Programs of Study (RPOS)” grant program. Working with the Florida DOE Division of Workforce Education, *Biotility* assembled The Florida Biotechnology Articulation Consortium (FBAC) to streamline career paths of students participating in the state’s rigorous secondary biotechnology program, and to provide multiple entrance and exit points leading to a range of career opportunities. The timing was perfect, as the Florida Legislature had recently passed the *Career and Professional Education* (CAPE) Act (FS 1003.491, 2007), with a primary purpose of improving middle and high school academic performance by providing rigorous and career-themed courses that articulate to postsecondary coursework and lead to industry certification(s).

The Florida industry-recognized *Biotechnician Assistant Credentialing Exam* (BACE) was developed to document student understanding of core theoretical knowledge and practical

applications delineated in the academic and performance standards of the secondary Industrial Biotechnology program, which was developed utilizing industry input (Banner Center for Biotechnology Needs Assessment, 2007). Detailed information about the exam is available at <http://www.cerhb.ufl.edu/education-center/biotechnician-assistant-credential>. The exam consists of a written component (available online) and a proctored, practical component designed to assess hands-on skills and techniques. The exam has been vetted by Florida's trade organization BioFlorida. Committee members representing a diverse range of biotechnological applications provided feedback on the scientific accuracy of exams questions and their accuracy and fit within the academic and performance standards, along with overall thoughts on how well the exam reflects the knowledge and skill base for a basic/entry-level position. The *Biotechnician Assistant* credential (<http://biotility.research.ufl.edu>) was approved by CareerSource Florida in 2011 and added to Florida's "Comprehensive Industry Certification List for the Career and Professional Education Act."

The BACE also serves as a mechanism for statewide articulation into Florida colleges' associate degree programs in Biotechnology and was approved by the state board of education in January 2012.



Since its launch during the 2011–2012 school year, 387 students have taken the exam, with a pass-rate of 69 percent. Based on a 2014 survey of credential earners, 95 percent of respondents have either found employment or entered postsecondary education. Due to the prior rigor of the secondary coursework, most (93 percent) had already planned to enter bachelor's-level programs, with 83 percent entering disciplines in the biosciences. Of these students, 20 percent planned to continue to master's degrees, 43 percent to doctorates, and 15 percent to professional schools. Sixty-five percent of the students also planned to work while in school, and felt that earning the credential was beneficial to finding employment.



One example is **Kelsey Tatum**, who passed the BACE in 2013 and is currently a sophomore at Florida State University in the honors college. As a freshman she became active in research related to nitrogen fixing bacteria, a phenomenon that is crucial to the turnover of crops. Her previously established skills made her an asset to the lab, where she now holds a paid research position. As a biotechnology student at Ponte Vedra High School, Kelsey worked on an independent research project that employed PCR (polymerase chain reaction) to detect evidence of environmental DNA for antibiotic resistance.

Aligned with the framework of the secondary Industrial Biotechnology program, the *Biotechnician Assistant* credentialing exam is also administered to Florida teachers seeking district certification to teach the Career and Technical Education component of the secondary Industrial Biotechnology program. Currently, the Industrial Biotechnology program is offered in 17 high schools throughout Florida, with over 900 students participating. Project Lead the Way has also recently adopted the Biotechnician Assistant Credentialing Exam for its Biomedical Science program in Florida, thus expanding career and academic opportunities for students.



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INTERNATIONAL ***The CORD Educational Model:*** ***A Workable Solution to Shared Problems***

Agustin Navarra



For decades people from many sectors of American society have been complaining about public education. They say (correctly) that it lacks relevance to what students (future employees) will actually do in the workplace, too many students repeat grades or drop out, graduates lack the skills necessary to thrive in an increasingly global knowledge economy, and so on. The symptoms are widespread and, unfortunately, seem to be getting more acute every day.

These issues are especially acute at the high school level. Today's teenagers, who will soon be working (or at least work-eligible) adults, are most adversely affected by public education's shortcomings because, just at the time in their lives when they should be readying themselves for future careers, they lose interest and neglect to develop the skills that will equip them for the workplace.

The Latin American Perspective

As Vice President for International Initiatives at CORD (Center for Occupational Research and Development, cord.org), I have spent more than twenty years working in educational projects outside the United States, mainly in Latin American countries. Through those experiences I have come to the conclusion that the complaints, concerns, and problems observed in the United States are found practically everywhere and are often more acute outside the United States than they are here.

Here is what I have observed in the Latin American region. Please note that I am not focusing on school infrastructure (such as buildings and facilities), salary levels, or policies. My focus is on educational practices and perspectives, and their outcomes.

- The growing gap between technical education and the real needs of business and industry (which are constantly evolving) leads to a kind of “workplace illiteracy” that exacerbates unemployment.
- Educational budgets and organizational structures are insufficient to accommodate the expense of sound technical education.
- A rapidly growing segment of the population is dropping out of the formal sector (for a variety of reasons, mainly poverty, marginalization, and frustration).
- The education system comprises a tumultuous mixture of different approaches and initiatives.
- Many institutions are unable to collaborate. This, coupled with slow reaction to change, leads to inefficiencies.
- Because of poor quality control, training and education (formal and non-formal) are deteriorating.
- Student enrollments are increasing “exponentially.”
- Access to technology across the general population is uneven. This creates inequities in the classroom, as some students have far more opportunities to use technology than others.
- The prevailing pedagogy is unfair, discriminatory, and obsolete.
- Much curriculum content is irrelevant to what students really need to know.
- Drop-out and repetition rates are high.
- Communication and coordination between educational levels, and between education and business-industry sectors, is poor.

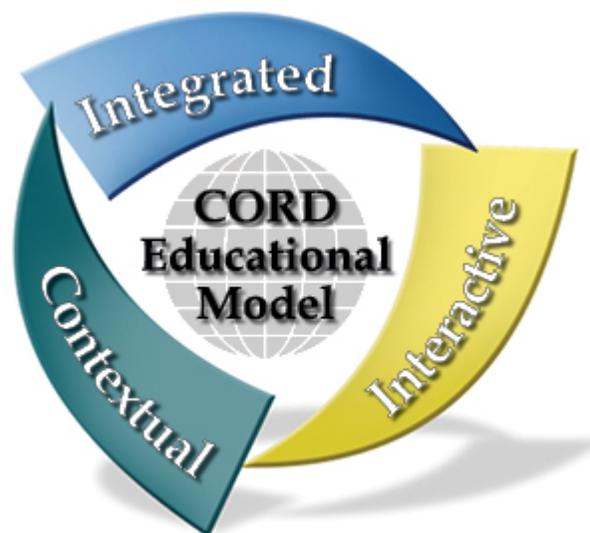
At the classroom level, these problems translate into non-focused teachers, unmotivated students, employers struggling to find well-prepared workers, and countries losing ground in the global marketplace.

The CORD Model

To support education reform in Latin American countries, CORD has crafted a model that addresses the problem from three angles. The model is based on three building blocks, as is shown here.

The CORD model calls for a three-pronged approach that encompasses pedagogy and curriculum and requires the support of active partnerships. (Each will be described in more detail in future articles.)

1. The pedagogical building block is the REACT strategy for contextual teaching and learning.
2. The curriculum building block calls for integration of real-world content into classroom curriculum that translates into a more contextual plan of study for students.
3. Partnerships (either private or public-private) are essential, because they provide seed money to initiate the process, keep the “players” together, and pave the way to a sustainable process.



The implementation of this model, either totally or partially, has shown notable success in several countries.

Future Articles

While training teachers, talking to education authorities, and helping form partnerships over several years, I have encountered a wide array of barriers that obsolete education paradigms are imposing upon efforts to modernize. CORD’s goal in its international projects is to help all stakeholders—schools, businesses, teachers, and students—overcome those obstacles. The steps we are taking to reach that goal will be chronicled in future articles I hope to contribute to *Connections*, in which the CORD Educational Model will serve as a unifying theme. *Hasta la próxima . . .*

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TECHNOLOGY

Using a Backchannel to Build a Community of Practice in a Professional Development (continued)

Jeannie Justice



In my previous article (http://www.cordonline.net/connections/24_5/24_5_technology.htm), we discussed one of my presentations at NCPN 2014, “Using a Backchannel to Facilitate Professional Development.” In that article I noted that one of the challenges I face with giving professional developments to educators is that there is always a conversation going on in the background, a “backchannel.” My audience

members often talk continuously through the whole workshop. In this follow-up article I will make recommendations for incorporating backchannels into your professional development events.

Because of schedules, workloads, and lack of time to build relationships with peers, the non-stop talking that takes place in professional developments is often for the best of reasons: to build meaningful relationships, develop peer support networks, and collaborate in exploring innovative teaching techniques. This is where I thought backchanneling might be a win-win, allowing my participants to continue with this valuable communication but also allowing me to deliver the professional development.

Although there are several definitions for “backchannel,” in this article I am using the term to refer to an informal secondary or background communication channel that exists while a formal frontchannel speaker, lecturer, or panel is presenting (Cogdill et al., 2001; Du et al., 2012; Farnham et al., 2009; Kellog et al., 2006; McNely, 2009; Ross et al., 2010; Yardi, 2006). In other words, when I’m giving my professional development, I’m the frontchannel. The place (an app or website) where the educators can communicate with each other (usually via typed messages) is the backchannel. My last article went into detail on the definition of and research pertaining to backchanneling, the benefits of using a backchannel, and the benefits of a community of practice.

What Is the Backchannel Used for in Professional Developments, and Who Is Using It?

In the professional developments that I’ve organized, I’ve had some mixed reactions to using a backchannel. Some schools embraced it and others didn’t. To better understand how a backchannel is used in these situations and who is using it, I developed a survey. By giving each participant a backchannel ID (online nickname), I could collect and analyze comments. At one professional development workshop, I found that 47 percent of participants used the backchannel provided during the workshop. The best part was that, of the people who used the backchannel, 52 percent used it to build a community of practice. In other words, over half the time the backchannel was used, it was used to collaborate or to share knowledge with the community of participants, or for mutual help.

Interestingly, all the people who used the backchannel were over the age of 40 and had over ten years of experience in the field of education. Of those using the backchannel, 67 percent were female and 67 percent had master’s degrees. Also, just over half (56 percent) were district employees and were no longer in the classroom daily. The backchannel used in the workshop was similar to a popular social media platform, so I anticipated that anyone using social media, such as Facebook or Twitter, would be comfortable using the backchannel and therefore would participate more than others not familiar with social media. Surprisingly, I found that only one third of the people using the backchannel regularly used social media. Therefore, the majority

of people using the backchannel were older, more experienced in the field, less experienced with social media, well educated, and female. I found this description very interesting.

Tools for Creating a Backchannel

I used Edmodo (which has been called “Facebook for schools”) so that participants could use the same forum to continue their conversations. Edmodo records chats so that participants can review advice, tips, websites, and anything else useful that the comments might include. Any social media would work for a backchannel. For example, Facebook or Twitter would work for building a community of practice while backchanneling; however, the conversations may not be recorded for later access with these types of tools. I suggest trying out several platforms to figure out which suits your situation best. Other backchannel platforms to consider include Twiducate, Chatzy, ChannelMe, NeatChat, Stinto, Chatterous, Cel.ly, and various Google tools like Hangout, Groups, and Wave.

Before Setting up a Backchannel . . .

Before you jump in, let me share some of my experiences to help you along.

1. Explain the purpose of using the backchannel. Participation will be better if everyone is on the same page.
2. Set boundaries for comments—no snarking, constructive feedback only, use proper etiquette, and so on.
3. Have everyone post in the backchannel before starting the frontchannel (i.e., presentation). This reduces intimidation and increases participation.
4. Have someone monitor the backchannel so that you can address questions and confusion. Do not keep a live feed showing comments to the audience. The comments can take over the presentation.
5. Don’t rely on the backchannel to engage your audience. The presentation must be engaging on its own.
6. If the backchannel doesn’t work the first time around, don’t give up. Experiment with different platforms.
7. Use the backchannel to improve your professional developments as a whole. Go back through the conversations after the workshop to see what needs to be clarified or how to smooth out rough spots.

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Career Pathways Partnerships in Virginia

Randall Stamper



In spring 2008, Governor Tim Kaine issued an executive order establishing the Virginia Career Pathways Task Force. The group included representation from the eight state agencies that administer and oversee workforce development, as well as a representative from the commonwealth's economic development office. Charged to develop a Career Pathways strategic plan, the members met regularly over several months to develop a shared vision, consistent definitions, and systemic expectations of what

Career Pathways meant for the state's workforce programs.

In December 2008, the task force issued *Bridging Business and Education for the 21st Century Workforce: A Strategic Plan for Virginia's Career Pathways System*, which outlined a vision for the system and specific goals and outcomes to be achieved across agencies and programs.

In the years since the release of that plan, the group has continued to meet, collaborate, plan, and problem solve. While the name has changed from "task force" to "work group," and membership has changed a bit over the years due to retirements and shifting administrative

priorities, the core representatives from the Governor's Office, Department of Labor and Industry, State Council for Higher Education, Department for Aging and Rehabilitative Services, Department of Education, Virginia Community College System, Department of Social Services, Virginia Employment Commission, and Virginia Economic Development Partnership have remained committed to the group because of much real progress that has been made in integrating Career Pathways into Virginia's workforce development system, and because of the trust and respect that have grown among the members. The results—which include collaborative interagency programming, tens of millions of dollars in collectively sought public and private grants, and legislation that has advanced recommendations that grew out of our work together—have exceeded expectations. A few examples tell the story of the work group's growth and success over the years.

Early in our tenure, members of the Career Pathways Work Group attracted the attention of the Ford Foundation, which provided funding to support three small regional proof-of-concept grants to show how Career Pathways could be integrated into regional programming. In one pilot the Peninsula Council for Workforce Development and Thomas Nelson Community College jointly developed a comprehensive set of workforce competencies needed to fill over 11,000 projected job openings in the area's 14 major manufacturing companies, as well as a website designed to guide residents to manufacturing jobs and regional education and training programs that provide relevant preparation for those jobs. The success of this pilot led to the development of the same tools for healthcare employers in the region, and the recognition among business and industry in the region that the partnership between the council and the college provides the go-to workforce solutions source in the Hampton Roads region of Virginia.

Based on the success of these pilot programs, and the growing recognition of the work group at the state level, the members recognized that we needed both to tell our story better and to show state leaders, legislators, and other policymakers that we really were approaching our work differently. To these ends, all of the agencies represented on the work group contributed funding and staff time to create two products that would provide a clearer picture of Virginia's Career Pathways system. The award-winning video that we produced helps explain our interagency approach to workforce development. A complement to the video is a clear and concise map of the workforce development system that provides a quick, easy-to-understand picture of the funding, populations served, and providers of the 24 workforce development programs in Virginia. This map has been tremendously helpful to members of the Governor's staff and agency leaders as they have sought to educate legislators about the state's workforce development system through two general assembly sessions that have led to new funding for some of our programs, growth of support for noncredit workforce training at our colleges, and greater collaboration among agencies in economic development planning. It's fair to say that if the members of the work group had not spent the past several years meeting, learning more about each other's agency priorities, and identifying where we could make effective and significant steps forward collectively, we would not now be viewed as the Commonwealth's

subject matter expert advisory group to the state Workforce Investment Board and the Governor's Cabinet.

As cited in a recent review of the workforce development system by the legislature's non-partisan research arm, "In the past few years, providing workforce development services has moved from a program-specific approach to taking an interagency, systemic approach. . . . A key component of this system level approach to provision of services is collaboration among the existing programs. . . . More than half the programs (14), report sharing multiple resources with at least 3 other programs. Almost all (23 of the 24) programs report sharing clients with at least one other workforce program, in most cases multiple programs." This, quite simply, was not the case ten years ago, and it is reflective of the premium all agencies have placed on the extra work it takes to reap the benefits of shared risk, shared effort, and shared success.

Nowhere are those benefits more apparent than in recent grant awards we've enjoyed. In the past year, members of the group have worked together on a variety of grant opportunities to support the populations we serve. A Department of Labor grant will fund work by the Virginia Employment Commission and Virginia's Community Colleges to provide better supports to veterans seeking training, mentoring, credit for prior learning, and job placement. Another DOL grant will support local partnerships among WIBs, colleges, and businesses so that long-term unemployed workers can simultaneously access on-the-job training, career coaching, and college training related to the OJT, all at no cost to the recipient. Invited grants from several funders, if awarded, will scale up a pilot program that partners our Department of Social Services, Department of Education, Virginia's Community Colleges, and the Virginia Employment Commission for the purpose of accelerating the training, credentialing, and employment of Virginia residents who receive SNAP benefits. All told, nearly 25 million dollars have been awarded to collaborative applications developed by members of the Career Pathways Work Group, and we are optimistic that 30 million more will soon be approved to fund projects across agencies, across regions, and across the populations we serve together.

During Governor McAuliffe's administration, the Career Pathways Work Group has been instrumental in driving a major policy initiative to focus all 24 career and technical education and workforce programs within Virginia's workforce system on the goal of generating 50,000 more workforce credentials in the next three years, and nearly half a million more credentials by 2030. Credentials to Compete—including industry certifications, licenses, apprenticeship credentials, and community college occupational certificates and degrees—are bringing together state agencies, programs, and the 15 local workforce investment boards around a common goal and collaborative activities to better promote, resource, and evaluate credentials that count in building Virginia's pipeline of technicians, technologists, and trades workers.

Based on these accomplishments over the past several years, and the clear vision of what is yet to come, Virginia was one of a handful of states chosen to participate in the National Governors' Association (NGA) Policy Academy targeting alignment of education and training to

economic development and employer needs through state-level action in setting a vision and goals for workforce development. Our work will focus on enhancing integrated data systems to inform policy and administrative action; building private-public partnerships; and realigning resources to better meet goals and benchmarks. In line with the Governor's focus on Credentials to Compete, Virginia's primary outcome in its NGA grant will be establishing policy aimed at reducing the skills gap for so-called "middle skills" jobs in key industry sectors, in part through driving the Governor's credential goal. Not surprisingly, several members of the work group are serving on the leadership team for the new NGA grant, and we are very excited to see how our next chapter unfolds.

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Oklahoma Education and Industry Partnership Program

A Governor's Oklahoma Science and Technology Council Initiative



A recently announced initiative in Oklahoma is seeking to enhance the state's economic growth by creating a partnership of educators, counselors, administrators, parents, students, industry leaders, policymakers, and members of the economic development community. The partnership's goals will be to provide relevance and rigor to STEM education and training and workforce development, motivate students to develop and maintain career pathways, and provide professional development for Oklahoma educators.

The initiative seeks to expose 100 Oklahoma 5–12 grade STEM teachers and counselors to three of the state's wealth-producing industrial sectors (aerospace/defense, energy, and agriculture/bioscience) by conducting a three-day series of workshops, presentations, field trips, networking opportunities, and discussion forums.

Events (tentatively scheduled for late July) will be held at Rose State College and other venues in Oklahoma City and Ardmore. Attendees will hear presentations, take field trips to industry locations, and participate in workshops and idea sharing sessions on how to use industry information in their classrooms. Each of the three target industry sectors will be the focus of a full day's activities.

The destinations of the proposed field trips will be:

- the Oklahoma City Air Logistics Complex and the 552 Air Control Wing on Tinker AFB or the Civilian Aerospace Medical Institute at the Mike Monroney FAA Center,
- the Noble Research Foundation and Academy in Ardmore, and
- an Oklahoma energy industry location.

Evening programs will include guest speakers and breakout sessions where attendees will discuss and make recommendations on issues impacting Oklahoma STEM education, and how information presented at the event can be used in their classrooms.

An executive steering committee is being appointed, to consist of representatives of the primary stakeholder entities. Committee representation will include the Oklahoma Manufacturing Alliance, the Oklahoma Aeronautics Commission, the Oklahoma Energy Resources Board, Coalition for the Advancement of Science and Math Education in Oklahoma, Oklahoma Career and Technical Education, the State Department of Education, Rose State College, and others, including Oklahoma teachers.

Sponsorships (to cover costs such as attendees' accommodations and transportation) are being requested from across the three industry sectors and the state's economic development community.



For more information, or to sponsor the initiative, contact Ben Robinson, chair of the planning committee, at sentryonellc@aol.com.

West Virginia Has the EDGE on Career Pathways

Amy Dennis



West Virginia is supporting career pathways through *EDGE: Earn a Degree-Graduate Early*, an initiative formalized into legislation in 2012. EDGE satisfies the four Perkins IV Program of Study (POS) requirements: (1) Incorporate and align secondary and postsecondary education elements. (2) Include academic and CTE content in coordinated, non-duplicative progression of courses. (3) Offer the opportunity, where appropriate, for secondary students to acquire postsecondary credits. (4) Lead to an industry-recognized credential or certificate at the postsecondary level, or an associate or baccalaureate degree.

Several elements are critical to the successful implementation of Perkins IV POS. This article focuses on legislation, partnerships, and accountability in relation to the EDGE program (US Department of Education 2010).

Partnerships

The EDGE initiative builds on a foundation of consortia that were already in place at the time of the program's inception. Each consortium consists of at least one community and technical

college (CTC) and the area career and technical education (CTE) centers in the CTC's service region. In the consortium for West Virginia University at Parkersburg, the area Regional Education Service Agency (RESA), Workforce West Virginia, and Adult Basic Education agencies also participate. The monthly meeting of the consortium allows for regular collaboration between regional agencies and provides opportunities to explore and examine career pathway issues across a broad spectrum.

Legislation

The state of West Virginia understood the importance of creating legislation that would support career pathways. According to the US Department of Education, "legislation and policies at the state and local level should mandate, support, and encourage such practice" (2010). While EDGE was initiated in 2001, it wasn't until 2012 that the WV State Board of Education and the WV Community and Technical College Council passed Senate Bill 436, a Joint Rule for the Administration of EDGE. This rule sets forth the standards for the administration of the EDGE program (D'Antoni 2012).

The statutory goals of the WV EDGE initiative, as established by Senate Bill 436, are:

1. Create incentives for more students to continue their education beyond high school by providing all students with information about and access to courses that will prepare them to meet college-level standards.
2. Expand successful concurrent enrollment programs that include all students, not just those who are designated as college bound.
3. Align junior and senior year secondary courses with community and technical college certificate and associate degree programs.
4. Increase the number of students attending public community and technical colleges by participating in a collaborative partnership between the public schools and the state community and technical colleges.
5. Establish program of study pathways in combination with early entrance college courses which together allow a student to obtain an associate degree one year after high school graduation or to receive an associate degree along with the high school diploma (D'Antoni 2012).

A key component of EDGE is the articulation of college credit for technical courses offered at the area high schools and CTEs. Each community college in West Virginia creates its own standards for articulating EDGE credits. In 2014, WVU Parkersburg moved from a system of offering course-by-course articulated credits (x secondary course = y college credit) to articulating a block of specified college credits for students who complete secondary technical courses of study. For example, if a student completes a two-year secondary program in welding, they can articulate that into 13 credit hours at WVU Parkersburg. Thus a student can

earn an entire semester of college credit leading to a one-year certificate or two-year degree in welding at WVU Parkersburg.

Accountability

One major challenge presented by EDGE was that colleges were granting credit for courses they had little control over. Generally, EDGE-eligible courses are taught at high schools by high school instructors using high school texts, materials, and curricula. WVU Parkersburg and its consortium became concerned with credit integrity and wanted to find a solution that would maintain the spirit of the EDGE initiative while maintaining credit integrity.

The first step was to partner with the high schools in examining technical curricula. For several programs and courses, students could earn external and/or national certifications such as NCCER and Cisco A+. As many of the college programs also provided the same or very similar certifications, it was easy to identify crossover credits from high school programs to college programs that resulted in certification.

However, in program areas such as business and criminal justice, no state or nationally recognized external certification exists. WVU Parkersburg, in collaboration with the area CTEs, decided on a system of end-of-course testing. Below is a brief overview of the testing system:

1. Test content was created as a collaboration between high school and college faculty.
2. Tests are offered online, under control of the college, using the college learning management system (LMS).
 - a. High school teachers have “proctor” access but not complete access.
 - b. Test content is protected by the college.
 - c. Various protocols for loading the students into the LMS had to be worked out.
3. Students can request EDGE credit if they complete a specified program of study and score at least 75 percent on all required end-of-course testing.

While this system of testing has presented technical challenges, in general it has provided a secure and reliable system for identifying and validating students who have gained the necessary knowledge to have earned college credits. When WVU Parkersburg underwent its 10-year accreditation review by the High Learning Commission in spring of 2014, no problems or issues were identified with EDGE credit. Future plans for testing include simplifying the process for loading students into the LMS and working with a neighboring consortium and its community college to expand testing in the region.

The state of West Virginia is serious about its commitment to creating smoother career pathways and increasing degree and credential attainment. The EDGE initiative allows secondary students who have already chosen technical programs to continue their education at community colleges in non-duplicative progressions of courses that lead to industry-recognized

credentials, certificates, and associate degrees. Strong partnerships are critical to the success of EDGE.

**West Virginia University at Parkersburg is the only community college in the state of West Virginia authorized to offer select four-year degrees.*

Works Cited

D'Antoni, Kathy (West Virginia Board of Education). *Senate Bill 436 EDGE: Earn a Degree-Graduate Early Annual Legislative Report*. Charleston, WV: 2012.

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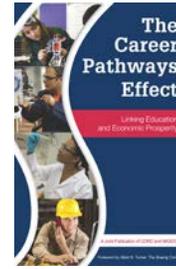
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Connections is published by the National Career Pathways Network, an organization of educators and employers dedicated to the advancement of Career Pathways, and other CTE initiatives. Founded by CORD, NCPN assists its members in planning, implementing, evaluating, and improving workforce education programs.

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The Career Pathways Effect

Professional Development Workshops



The Center for Occupational Research and Development (CORD) and the National Association of State Directors of Career Technical Education Consortium (NASDCTEc) recently collaborated on the development of *The Career Pathways Effect: Linking Education and Economic Prosperity*. CORD and NASDCTEc have developed professional development workshops based on the major themes of the book to support practitioners in the implementation and improvement of career pathways. Below are descriptions of available workshops. Each can be customized to meet local needs.

LEAD/SUCCEED SERIES

Career Pathways Overview

An introductory workshop designed to be the catalyst for the development and implementation of a career pathways system. The workshop is based on the Department of Education Office of Vocational and Adult Education's Programs of Study (POS) Design Framework. Topics include:

- Legislation and Policies
- Partnerships
- Professional Development
- Accountability and Evaluation Systems
- College and Career Readiness Standards
- Course Sequences
- Credit Transfer Agreements
- Guidance Counseling and Academic Advisement
- Teaching and Learning Strategies
- Technical Skills Assessments

Participants complete a self-assessment for each of the 10 components of the POS Framework and are encouraged to attend the workshop in a team (minimum of two per team). Team members might include secondary and/or postsecondary administrators, faculty, and counselors. For a sneak peak on what the workshop will cover please review the following marketing webinar:

<https://www.youtube.com/watch?v=hW4BJI-q3hc>

The Administrator's Role in a Career Pathways System

It takes exceptional leadership to successfully implement a career pathways system. This workshop addresses:

- Leadership traits
- Leadership case studies
- Leadership among stakeholders
- Leadership roles and opportunities that support career pathways

For a sneak peak on what the workshop will cover please review the following marketing webinar:

<https://www.youtube.com/watch?v=maoMib6lkHg>

PARTNER SERIES

Partnership Opportunities

A career pathways system requires multiple partnerships within a community. Workshop topics include:

- Partnership advantages
- Partner identification
- Goal setting
- Model structures
- Partner roles and responsibilities
- Action plan development
- Partnership management – operating and sustaining

For a sneak peak on what the workshop will cover please review the following marketing webinar:

<https://www.youtube.com/watch?v=jkfR5DJ7rkw>

DELIVER SERIES

Teaching for Success

This workshop is designed to support teachers in their role as learning facilitators within a career pathways system. Topics are centered on evidence-based practices that promote student engagement and the application and transfer of knowledge. Topics include:

- 21st century teaching and learning challenges
- Brain-based learning research
- Connecting knowledge and application
- Contextual teaching and learning strategies
- Teacher effectiveness
- Support systems
- Role of business and industry
- Case studies
- Recommendations for success

For a sneak peak on what the workshop will cover please review the following marketing webinar:

<https://www.youtube.com/watch?v=A8IsDHVmXtM>

Counseling for Success

A career pathways system requires a progressive counseling system beginning in early childhood and continuing through adulthood.

Workshop topics include:

- Career guidance theory
- Career guidance tools (assessment, databases, technology)
- Career guidance support
- Role of career counselors in programs of study
- Counselors as the lynchpin and facilitator
- Individual learning plans

For a sneak peak on what the workshop will cover please review the following marketing webinar:

<https://www.youtube.com/watch?v=iDm6dgMzZt4>

Building Programs of Study

This workshop addresses:

- The POS design process
- Equipping your toolbox with the nuts and bolts of career pathways (career clusters, POS framework)
- Delivery system models (dual enrollment, middle college, apprenticeships)
- Implementation plan development
- Case studies
- Communication strategies
- Technical skill attainment/evaluation
- Capacity analysis

For a sneak peak on what the workshop will cover please review the following marketing webinar:

<https://www.youtube.com/watch?v=j9WcXAXKcNq>

ENSURE SERIES

Data-Driven Decision-Making

This workshop focuses on using data for decision-making, accountability, and evaluation. Topics include:

- The necessity of quality data
- Evaluation strategies and trends
- Perkins accountability
- Using data to inform decisions
- Using labor market data to set priorities
- Return on Investment (ROI) models
- Using data to demonstrate success
- K-20 statewide systems (optional)

For a sneak peak on what the workshop will cover please review the following marketing webinar:

<https://www.youtube.com/watch?v=8egoY6lp5Nc>

Workshop Details

All workshops include copies of *The Career Pathways Effect* book and may be augmented with pre- and/or post-workshop webinars.

To learn more or schedule professional development for your team, contact:

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