CHARTWELL EDUCATION
GROUP

Report on the Career & Technical Education Programs of the Pittsburgh Public Schools

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Introduction

There has never been a greater need for an integrated career, technical, and academic education system in the United States' schools than there is today. Career and Technical Education (CTE) in the United States faces a number of challenges, not the least of which being that it still faces the stigma attached to "vocational education" which is frequently regarded as "low-skill occupational training." The disconnect between CTE and academics fails to recognize and address the rapidly changing nature of the workforce and the skills necessary to succeed in such a dynamic economy.

Career and Technical Education providers have worked hard to enrich the academics their programs provide, but much more work needs to be done to integrate and connect CTE skills with the larger, traditional school environment. The need for such integration has been established by a number of leading educational organizations. The Partnership for 21st Century Skills advocates for the integration of life skills into all aspects of the educational system. These include global awareness; financial, economic, business, entrepreneurial and civic literacy; learning and thinking skills; health and wellness awareness, and, particularly critical, literacy in information and communications technology and life skills.[1] In a recent study, "Are They Really Ready to Work?" over 400 employers in the United States were surveyed. These employers articulated the dire need for workers who were educated in both applied skills and basic skills.

Findings

A review team of professionals with expertise in career and technical education, led by the former U.S. Assistant Secretary for Vocational and Adult Education, completed four days of site visits and interviews in the Pittsburgh Public Schools (PPS) in October 2006. The main finding of the review team is that there are no systems in place to develop, implement, evaluate and refine the career and technical education programs in the PPS. From the central office level, there are no clear responsibilities outlined for central office staff, principals, teachers, counselors and staff regarding the development of K-12 programs for career awareness and preparation for work upon graduation or after postsecondary training and education. In fact, there appear to be no programs in K-8 that connect careers to the academic coursework or that encourage students to investigate future career options and the preparation necessary to achieve them. A series of downsizing measures have left staff there without an effective structure for the use of their talents and experience. Supervision and evaluation of staff at the central and school levels are not connected with accountability for results, and there is therefore no incentive to improve performance. The budget is divided between central and school sites without consideration to providing the necessary resources for teachers and students to succeed. Guidance and counseling are not focused on encouraging students to explore, enter and complete career and technical education programs. Finally there are few connections with the business and postsecondary education communities that could deepen the quality of offerings in K-12 and link them to opportunities for internships, job shadowing, postsecondary education and training, and to jobs in the region.

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[1] The Partnership for 21st Century Skills. "State Leaders Action Guide to 21st Century Skills." www.21stcenturyskills.org/documents/stateleaders071906.pdf, 2006.

What is needed is a K-16 strategic plan for Career and Technical Education, developed in collaboration with the business and postsecondary education and training communities, that includes rigorous course expectations to ensure all students are college-ready and specific strategies to help all students achieve those expectations; effective curricular and instructional resources; closer links between CTE and postsecondary educational institutions; career and technical student organizations to motivate and develop students' knowledge and skills in CTE areas, as well as leadership and entrepreneurship; a coherent guidance and counseling system that begins with career awareness in elementary schools and continues through postsecondary placement; professional development for teachers of academic and CTE courses that includes externships in business; and a budget that ensures that the resources are available to effectively implement the plan. The report contains specific recommendations in the areas of program offerings, guidance and counseling, and collaboration with the business and postsecondary education and training communities to accomplish the goals of the system.

Recommendations

Business, Industry and College Involvement with the Pittsburgh Public Schools

Business and industry, the higher education community and PPS have a shared interest in improving students' academic performance and helping them acquire higher level academic and workplace skills.

To create a long-term solution, PPS should convene a Blue Ribbon Leadership Committee comprised of high-level corporate, higher education, government, and workforce leaders and a Blue Ribbon Working Committee to develop a short and long-term community strategic plan. In addition, a steering committee comprised of business, industry and college persons will be needed to provide recommendations on program design, curriculum, experiential components for both staff and students, student recruitment procedures, equipment, etc.

In the short-term, recommendations include the need to reconnect with the Three Rivers Workforce Investment Board and, through them, with the trade, industry, economic and community organizations in Pittsburgh. This will provide important career information for use by counselors and career and technical educators. In addition, PPS needs to establish effective advisory committees for its career clusters, establish standards for each program for curriculum and equipment needs, develop an effective funding system, and involve the business and industry communities in summer and academic-year programs, career guidance programs and in professional development activities for teachers, counselors, and administrators.

Potential Configuration for Technical Education Offerings in the Pittsburgh Public Schools

Students could benefit from a variety of options for program delivery. There are several possibilities that are currently used effectively in urban school districts. In addition to large integrated academic and career centers, specific career clusters could be included in selected schools across the city. The centers could be jointly funded and operated by PPS and the business, industry and postsecondary education communities. Funding for supplies would

be provided to programs without their having to compete with other needs at the school level. PPS might consider the use of weighted student funding formulas to allocate resources to schools that are appropriate for the services to be offered to individual students. Specific recommendations are included in the report.

Pre-K-12 Guidance and Counseling System

The new Pennsylvania Academic Standards for Career Education and Work require that students in elementary through high school meet career education and work standards in four areas:

- Career awareness and preparation,
- Career acquisition,
- Career retention and advancement and
- Entrepreneurship

PPS does not currently have a system in place to ensure that students at grades 3, 5, 8 and 11 meet these standards. For all students to achieve state standards at the required grade levels, there needs to be a coherent guidance and counseling system that includes a robust career education component that is integrated with academic coursework at elementary schools and with academic and CTE coursework at middle and high school levels.

It is recommended that PPS establish a career awareness, career exploration and career connections system that runs from elementary through high school. At each level, students will investigate career options at the appropriate level of complexity and develop knowledge and skills that will enable them to make wise decisions about their course of study in K-12, as well as prepare them for decisions about postsecondary opportunities and requirements. For this to be effective, academic teachers, counselors and CTE teachers must work together and infuse CTE into all areas of elementary and middle school study and ensure that these concepts and skills are integrated into academic and CTE coursework in high school. That will require professional development for all three groups as well as the administrators who supervise and direct them. Close collaborations with the business, industry and postsecondary educational and training institutions will ensure the quality of the professional development for the adults and the academic and career knowledge and skills of the students. It will also ensure that students and teachers have the opportunity to participate in internships and externships that will broaden their understanding of possible careers in the Pittsburgh area in the 21st Century.

Close collaboration of PPS with its business, industry, postsecondary education and training communities will provide a more effective system of education for all students in Pittsburgh as well as ensure that Pittsburgh has a vibrant, well-educated workforce to create economic and personal growth in the 21st Century.

Introduction

There has never been a greater need for an integrated career, technical, and academic education system in the United States' schools than there is today. Recent reports have shown that the nation's economic and technical dominance is waning, as one report puts it, "undermined by flaws in its own educational system…at a time when existing and emerging world powers are pouring billions into technology and education and catching up to (and sometimes surpassing) the United States on key indicators."[2] The United States faces the challenge of maintaining its competitive edge over global competitors while simultaneously boosting its own education system. Career and Technical Education (CTE) can be a natural answer to this quandary.

Career and Technical Education in the United States faces a number of challenges, not the least of which being that it still faces the stigma attached to "vocational education" which is frequently regarded as "low-skill occupational training." This type of vocational education is widely seen as a less-than-rigorous educational track that leads directly to the workforce through bypassing post-secondary higher education. The traditional academic track, however, is seen as the desirable track that leads to further schooling in higher education institutions. This dichotomy is exacerbated by the educational system's continued separation of the two tracks, each with separate instructional and achievement goals.

The disconnect between CTE and academics fails to recognize and address the rapidly changing nature of the workforce and the skills necessary to succeed in such a dynamic economy. Recent actions in the push for rigorous academic reform in the United States have increasingly come from the business and industry sectors who have articulated the desire for a highly-skilled, highly-schooled, and highly-motivated workforce. In some cases, the academic skills required for succeeding in the rapidly-changing, technologically-driven society are higher than or different from the requirements for admission into higher education institutions.[3] The need has been emphasized in education reform literature as well for "high-school graduates to be prepared for workplaces and continuing education."[4] The two tracks of vocational and traditional education can no longer be effective as separate entities.

Career and Technical Education providers have worked hard to enrich the academics their programs provide, but much more work needs to be done to integrate and connect CTE skills with the larger, traditional school environment. The need for such integration has been established by a number of leading educational organizations. The Council of Chief State School Officers (CCSSO) argues that institutions and policies that operate in isolation and foster a dichotomous "categorical" thinking cannot effectively contribute to building "a system of youth preparation for employment."[5] In fact, CCSSO argues that in order to create an effective system, there must be integration and interlinking of components from the education system and the community at large. In integrating these components, schools can no longer be viewed as independent entities. Schools, educators, employers, and community-

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[2] "The Post-Sputnik Era, Redux," Doug Lederman, January 27, 2006, News, Views and Careers for All of Higher Education, Inside Higher Ed, http://www.insidehighered.com/news/2006/01/27/aau

[3] Daggett, Willard R., "The future of career and technical education," International Center for Leadership and Education, http://www.daggett.com/pdf/CTE%20white%20paper.pdf (accessed November 10, 2006).

[4] Lynch, R.L., "New directions for high school career and technical education in the 21st century," Columbus: The Ohio State University, 2000, http://eric.ed.gov/ERICDocs/data/ericdocs2/content_storage_01/0000000b/80/22/44/a4.pdf.

[5] Ibid, p. 49.

based organizations should be viewed as integral components in creating an environment that is conducive to producing successful young people as they move towards adult roles and 'productive employment.'[6]

Similarly, the Partnership for 21st Century Skills, supported by the U.S. Department of Education, advocates for the integration of life skills into all aspects of the educational system. Content areas specified by the Partnership directly correspond to subjects traditionally covered in the CTE tracks. These include global awareness; financial, economic, business, entrepreneurial and civic literacy; learning and thinking skills; health and wellness awareness, and, particularly critical, literacy in information and communications technology and life skills.[7] The Partnership contends that the United States is rapidly falling behind global competitors because American education is still largely stuck in the 20th century. By this measure, American schools may be improving; but these same schools are not looking forward to the 21st Century and its requirements for the global economy, and are thereby ineffective in fostering long-term growth.

In a recent study, "Are They Really Ready to Work?," over 400 employers in the United States were surveyed. These employers articulated the dire need for workers who were educated in both "applied" skills and basic skills. In fact, findings in this report indicate that applied skills were ranked as three of the top five skills in importance, and applied skills often outranked basic knowledge skills like reading comprehension and mathematics.[8] While the basic foundational skills are extremely important, employers emphasized that applied skills like "teamwork/collaboration," "critical thinking/problem solving," and "creativity and innovation" are critical skills to succeed in the workplace. This report also made clear that many young people entering the workforce clearly lacked these applied skills. The rankings of need and current performance levels are contained in Appendix I.

The lack of basic and applied skills will have significant consequences for the U.S. economy as it is predicted that between 2000 and 2010, the number of workers ages 35-44 will decrease by 10 percent and those aged 16-24 will increase by 15 percent. In fact, it is estimated that a state's employers spend $40 million per year on remedial training in reading, writing, and mathematics for their employees.[9] When taking into account that the current entry-level workers fall short on basic preparatory skills needed for the workforce, the need for a change in the structure of education systems is clear. It is estimated that Pennsylvania could save over $80 million per year if students arrived at the community colleges "college ready" and were not required to take remediation in the community college. Those students would also increase their annual earnings by $43 million per year.[10]

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[6] Ibid.

[7] The Partnership for 21st Century Skills. "State Leaders Action Guide to 21st Century Skills." www.21stcenturyskills.org/documents/stateleaders071906.pdf , 2006.

[8] "Are they ready to work? Employers' perspectives on the basic knowledge and applied skills of new entrants to the 21st century U.S. workforce," The Conference Board, Corporate Voices for Working Families, the Partnership for 21st Century Skills, and the Society for Human Resource Management, 2006.

[9] The American Diploma Project (2004). Ready or Not: Creating a high school diploma that counts. Achieve, Washington, DC.

[10] Alliance for Excellent Education. (August 2006). Issue Brief: Paying double: Inadequate high schools and community college remediation. Washington, DC.

By going beyond the separate tracks of academic and CTE of the traditional school system to an integrated and coherent school system in the United States, educators and leaders can produce the next generation of both highly-schooled and highly-skilled leaders. Career and Technical Education imbued with academic rigor and connected to the traditional schooling of young people is a particularly important strategy for improving the state of education in America's schools. To achieve that end, districts must organize curriculum, programs and instructions around major fields of study; implement more contextual teaching and learning throughout the curriculum; provide opportunities for students and teachers to engage in work-based learning; and authentically assess student progress towards meeting designated standards of performance.[11] Districts can move forward through the creation of career academies and smaller learning communities or by adopting successful models of tech-prep. Integration of career and technical education and traditional school models can reinforce each other and provide the foundation for effective education that leads to productive and successful lives for young people in America.

In the Pittsburgh area, some districts are already working with the Three Rivers Workforce Investment Board, the business community, and postsecondary educational institutions to develop work-ready standards and align curricula to the needs of the region. In addition they are working together to develop close collaborations for students and teachers to experience both business and postsecondary educational options. Descriptions of the work-ready standards and the collaboration opportunities are contained in Appendix II. Pittsburgh Public Schools (PPS) can become part of this effort.

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[11] Lynch, R.L., "New directions for high school career and technical education in the 21st century," Columbus: The Ohio State University, 2000, p. 50, http://eric.ed.gov/ERICDocs/data/ericdocs2/content_storage_01/0000000b/80/22/44/a4.pdf.

Findings from Site Visits

A review team of professionals with expertise in career and technical education, led by the former U.S. Assistant Secretary for Vocational and Adult Education, completed four days of site visits and interviews in October 2006.   Three of the team members were either former or current directors of career and technical education in large urban districts, and one was a workforce development expert with previous experience in the U. S. Department of Labor and the National Center for Education and the Economy. The main finding of the review team is that there are no systems in place to develop, implement, evaluate and refine the career and technical education programs in the PPS. From the central office level, there are no clear responsibilities outlined for central office staff, principals, teachers, counselors and staff regarding the development of K-12 programs for career awareness and preparation for work upon graduation or after postsecondary training and education. In fact, there appear to be no programs in K-8 that connect careers to the academic coursework or that encourage students to investigate future career options and the preparation necessary to achieve them. A series of downsizing measures have left staff without an effective structure for the use of their talents and experience. Supervision and evaluation of staff at the central and school levels are not connected with accountability for results, and there is therefore no incentive to improve performance. The budget is divided between central and school sites without consideration to providing the necessary resources for teachers and students to succeed. Guidance and counseling are not focused on encouraging students to explore, enter and complete career and technical education programs. Finally, there are few connections with the business and postsecondary education communities that could deepen the quality of offerings in K-12 and link them to opportunities for internships, job shadowing, postsecondary education and training, and to jobs in the region.

What is needed is a K-16 strategic plan for Career and Technical Education, developed in collaboration with the business and postsecondary education and training communities, that includes rigorous course expectations to ensure all students are college-ready and specific strategies to help all students achieve those expectations; effective curricular and instructional resources; closer links between CTE and postsecondary educational institutions; career and technical student organizations to motivate and develop students' knowledge and skills in CTE areas, as well as leadership and entrepreneurship; a coherent guidance and counseling system that begins with career awareness in elementary schools and continues through postsecondary placement; professional development for teachers of academic and CTE courses that includes externships in business; and a budget that ensures that the resources are available to effectively implement the plan. The report contains specific recommendations in the areas of program offerings, guidance and counseling, and collaboration with the business and postsecondary education and training communities to accomplish the goals of the system.

Alignment

Alignment of the CTE Curriculum to State and District Standards

The state has laid out expectations for all students in Pennsylvania regarding academic standards for career education and work. These standards include the abilities, attitudes,

work habits, personal and interpersonal skills that students will need to succeed in the competitive global marketplace. These standards reflect current thinking in the workforce community that 21st century skills will reflect much higher technical standards and different skills and abilities than past CTE expectations, such as a capacity for creativity, out-of-the-box thinking, and the ability to take new ideas and knowledge to scale.

The state standards identify what students should know and be able to do at four grade levels—3, 5, 8, and 11—in the areas of:

- Career awareness and preparation
- Career acquisition
- Career retention and advancement
- Entrepreneurship

However, beyond a website with activities that have not been updated to align to the latest textbooks, there is little evidence that there is a structured program to develop these areas for all students by the end of grades 3, 5, 8, or 11. Although individual students and parents may pursue the opportunities available on the website, this is insufficient to reach the specific objectives set out by the state.

Coherence
Little program coherence from grade to grade was evident in the programs visited. In some cases, CTE courses now are one-period electives for some of the students in the class although other students take the same class as a two-period CTE course that is part of a program of courses. In some cases, the number of courses in a program is reduced at a particular school; and in many cases, counselors assigned students to classes without considering whether they had the skills to succeed in the course – for example, assigning students to Accounting II who had not yet had Accounting I. In other words, there appears to be no required course sequence with many programs, although "academies" were the exception in a few cases. Even there, some students were unable to complete the capstone courses required for completion of a coherent sequence of courses because there were scheduling conflicts with a major academic course. Many CTE teachers were concerned that counselors did not understand their programs or the need for students to complete a coherent sequence of courses that lead to completer status. As one instructor put it, "We aren't just a class, but also a program, and we want to offer a program to kids who want to make it a career."

Teachers also told us that the Pennsylvania System of Student Assessment (PSSA) has had a major impact upon program coherence since students whose PSSA scores are low must take additional reading or math courses, making it difficult to participate in a CTE program. There appeared to be no evidence of a formal approach to teaching reading and math within the CTE program, although one teacher suggested moving to three-hour blocks, with one hour dedicated to applied mathematics that would enable the student to meet the PSSA standards.

Visits to classrooms also provided evidence of multi-level technical courses where students in the introductory and advanced courses were scheduled at the same time in the same

classroom. This required teachers to provide two sets of instruction during the single period. Students received the teacher's attention for only half the instructional time they were scheduled to receive. As an alternative, teachers taught the students as a single group, shortchanging the advanced students. This occurred in robotics technology, culinary arts, carpentry and business technology.

The discussion with the Community College of Allegheny County (CCAC) did not demonstrate any evidence of coherent transitions from high school to the college. Tech Prep, a program that demonstrates articulation in many states from high school to college, focuses in PPS on helping students move into college without remediation, rather than on earning college credits while in high school. While some schools at the college agree to award some college credit, it is not required or universal. Tech Prep is described as "a program of enhanced skills, not time shortening." While there are nearly 500 high school students in Tech Prep programs, there is little coordination with CCAC, and few students enroll in the CCAC Tech Prep courses. CCAC blames this on the students' lack of preparation to take college credit courses—it reported that 60 percent of the students from PPS are required to take remedial courses upon entry to CCAC. PPS staff noted that CCAC no longer employs staff to meet with high school students and develop interest in continuing the Tech Prep programs at CCAC. PPS has state approval for tech prep programs and articulation agreements in accounting, business and information technology, health care technology, automotive technology, electrical production services, public safety, Cisco/A+ and engineering technology.

CCAC has not participated in PPS' development of new CTE programs. As a result, PPS and the community college have not agreed upon the standards required in high school courses to ensure that students are ready for college courses when they arrive.

CTE also fares poorly under the "dual enrollment" arrangement in Pennsylvania. Under the current Public School Code, dual enrollment is referred to as "concurrent enrollment" and focused on "non-remedial" college courses in "core academic subject(s)" such as English, reading, language arts, mathematics, science, foreign languages, civics and government, economics, arts, history and geography. These are the only courses for which the state will provide free tuition to the students. While CTE students could take CTE courses as electives at the community college, it appears that few do because they would have to pay full tuition costs. One of the very few exceptions cited by the CCAC staff resulted from the ingenuity and persistence of a health sciences teacher who encouraged business partners to contribute funds, and students to work and raise funds to pay the costs of community college tuition.

Workforce Development, Community and Higher Education Engagement
The Three Rivers Workforce Investment Board (TRWIB) has engaged in conversations with the PPS about career education and approaches for its delivery at the high school level. The TRWIB wants to begin a new and broad dialogue with PPS, the Mayor and other business, labor, and community leaders around the issues of curriculum and standards, sustainable systems and talent management – to "buy it or make it" in the region. There is concern about PPS receptivity to such conversations since the PPS reportedly evidenced no interest in the past when the TRWIB offered to convene a dialogue around how to provide the "best of education without playing catch up on equipment."

There is also concern about whether PPS leadership has provided the High School Reform Task Force with strong direction on CTE, as well as encouragement to study *systems* of excellence (locally and regionally), rather than just excellent individual schools as part of its review. The TRWIB executives offered that its members are willing to share ideas about how young people can take advantage of opportunities to improve their skills. The TRWIB is convening other school boards and community colleges in the region around workforce trends and instruction, focusing on increasing technology degrees. It also is promoting in other school districts regional internships, programs to teach teachers about work readiness competencies, and dissemination of information about promising career pathways.

While a few teachers interviewed appear to take advantage of labor market information that they can access on the Internet, most principals and CTE staff expressed a need for ready access to such quality information. It was not clear from the various conversations whether the principals and CTE staff are aware of the industries that will comprise Allegheny County's 21st Century economy—health care, medical equipment manufacturing, chemicals and plastics, construction and related trades. Also, the steel industry's research and development labs remain in Pittsburgh, and both universities and companies are moving to the next generation of labs. This underscores the importance of increasing the number of technicians in various career areas.

In addition to the TRWIB website describing regional developments, the Pennsylvania Workforce Development Website posts information, and it includes a Youth Home Page that might prove useful to counselors, teachers, students and parents. High school principals expressed interest in a "tool kit" about labor market information sources, including available services or products, as well as the standards and goals for the CTE teachers and programs in their schools, that would better inform them of growing and emerging industries, key occupations in the industries, skills required or in short supply, and the implications for their teachers' development and student coursework.

We did not talk to representatives from other trade or industry associations or other technical schools or college or university representatives about partnerships. While some teachers mentioned anecdotal arrangements, no external groups appear to have been actively involved in selecting CTE programs, defining standards or developing curriculum.

There are formal district advisory groups for the CTE programs, comprised of business and industry representatives and CTE teachers. These groups reportedly meet once a year, generally well into the school-year, to talk "about needs." There appears to be little attention paid to their discussions or recommendations. Understandably, business and industry participation is low, and teachers report the groups to be of little value.

Student Engagement in Rigorous Academics with CTE
The Pennsylvania State Plan for the Administration of the Carl D. Perkins Vocational Technical Education Act of 1998 requires that PPS work to integrate academics with career and technical education concepts and that students in career and technical programs be taught to the same challenging academic standards as all other students. From the classes visited, there was little evidence of the integration of academics into the career and technical education classes

beyond the use of Write Tool in some classes. In addition, the level of instruction in most of the CTE classes was at a low cognitive level, with the teacher instructing step by step what the students were supposed to do. There were notable exceptions to this in the pre-engineering, public safety and health sciences academies, and some of the computer-assisted design courses.

Most of the CTE teachers interviewed noted that they were not aware of any integration of CTE concepts or information into academic courses. Some CTE teachers provided us with examples from a new initiative, Write Tool, that PPS is currently introducing school by school; and while it may prove effective over time, the writing exercises we witnessed were not discussed or linked to the study topic, and thus not likely to yield solid results. Some teachers voiced concern that a large number of CTE students appeared to lack the skills necessary to complete courses and were not provided sufficient support to succeed. In other cases, teachers suggested that students in the Center for Advanced Studies (CAS) could benefit from participating in CTE programs, but were discouraged by their counselors from taking them.

A few teachers reported periodic examples of engagement with academic teachers, including math or reading coaches. These engagements resulted from relationships among teachers rather than any direction and encouragement. For example, one culinary arts teacher contacted a CAS teacher, and together they designed an event where students prepared to jointly present a play and then serve refreshments. The culinary arts teacher reported that her students gained fluency in reading, and the advanced students acquired an appreciation for culinary skills and for contributions by those with different skill levels.

Another teacher opened his advanced machining classroom to a math class to help students apply mathematical theory, and he hopes to develop a reciprocal effort for his students in the regular math class. Similarly, an electronics teacher planned a three-day physics lab for a physics class using robotics and electronics applications; unfortunately, he noted: "it does not go the other way." A fourth teacher, with the support of her principal, plans to integrate math and science into her cosmetology course. And a fifth organized a team teaching approach with a math coach for his welding students. While the team teaching appears to have been discontinued, instructional packets of math with welding examples remain in use in the welding classroom.

Teacher Qualifications
Nearly all of the teachers we met had credentials and also industry experience in the subjects that they teach. They are, with a very few exceptions, a strength for the PPS. Where the CTE programs are strong, it is due to the quality and commitment of the individual teachers. There are, however, some who continue to read lessons to the class and allow students to disengage or to sleep during lesson. There also were two teachers whose unprofessional dress set a poor example for students who are learning technical and work readiness skills.

While encouraged, little professional development is available to CTE teachers. Many of the teachers we talked with report that they mostly learn on their own, taking advantage of the summer months. Most reported recent sessions on the new Write Tool program. However, budgetary constraints appear to limit professional development activities. Hiring substitute teachers while attending staff development conferences or leadership events appears to be discouraged. As one new instructor said, "Professional days were discouraged last year because of money. Our principal also told us to decrease field trips for the same reason."

In addition, we were told that the PPS tends not to use participation in student career and technical student organizations as incentives for students or teachers to engage deeply in the career cluster area. While we saw substantial evidence of student leadership programs among some trade and industry or technical programs and a cosmetology program, there is no uniform policy on such participation. Rather, it depends primarily on the teacher and the principal.

Career Counseling

Career counseling is severely limited in the PPS. While one person commented, "Every counselor should be a career counselor," most had no comments. One teacher explained, "I was never told what they do." The career counselors themselves acknowledge that "there are too few counselors," and they "can't get to all students because of time limitations." Each is responsible for two high schools and 850 students, and they describe their duties as helping students with career plans, assessments and portfolios. The portfolios, we were told, are "good when they're finalized", but have little value as designed for employers. Career planning "is done on the fly and only later in the school year" if at all, according to one counselor. They have very little connection with academic counselors and no part in the decision making or sequencing of courses.

The career counselors currently report that they are without direct, effective supervision and receive little support from the administration. There appears to be a disconnect from the central administration supervisor who oversees "all counseling in PPS." This person reports that professional development and information exchange occur between career and academic counselors, and career counselors speak about careers to younger students and also, at middle schools, may sponsor career fairs or speakers. We believe this description of other career counseling duties may be an ideal state; it is not a reality.

Career counselors reportedly lack access to computer generated lists of CTE students for whom they are held responsible. Without guidance, it is difficult to prioritize functions of career counselors. It appears that students who are undecided about their careers likely will not have the benefit of PPS career counselors under current arrangements. Despite this situation, the career counselors we talked with believe they add value and wish for a better counselor to student ratio. However, at least two of the counselors had no CTE background and said they learned what they know from the other three career counselors. It is not clear that this system has any value as currently staffed and scheduled.

CTE Marketing to All Students
Marketing CTE to all students appears limited to posters, brochures, word of mouth, and the website for the most part. There appears to be no marketing strategy beyond the Magnet School brochure, nor resources to support implementing a strategy. School to Work Assistant Teachers add that there are no recruitment tools used to market CTE to special needs students.

Strategies and Tools

Integration of Academic and Vocational Teaching and Learning
We saw few instances that would qualify as quality integration of academic, vocational, and applied learning. We saw examples of applied learning. One culinary arts program had students preparing to serve lunches for faculty purchase. Other examples are: cosmetology students offering manicures and hair cuts or styling to students and community members; cabinetry and carpentry student-produced products on display or in use (such as in art or trophy display cabinets); horticulture students designing and assembling arrangements for school and related community events; public-safety students assisting in mock disaster drills and doing fire safety programs for elementary school students; and welding students designing and constructing iron benches for parks. While most teachers were able to keep the income generated by student products or services to plow back into supplies or finance field trips to trade shows, a few returned funds to the school. We only had limited opportunities to observe these activities, and thus, do not know the "rigor" of the integration. This is an area that requires further review by PPS.

Strategies for Student Engagement
While some classes provided student engagement opportunities, a number of classes we saw did not. With a few exceptions, business education courses appeared to provide limited opportunities, at least during our onsite visit. Students were often disengaged while the class moved through the lesson. A few teachers involved their students in regional and state competitions. An advanced auto manufacturing teacher reported engaging students in 20 plus competitions last year, and the welding teacher had posted the competition results for his students.

Establishment of Career-Oriented Student Organizations
While there may be a PPS-wide policy to encourage participation, student involvement in career-oriented student organizations or leadership organizations is uneven across programs and high schools. Decisions to participate appear to depend upon teachers' interest and time availability and funds to pay the membership and related fees. One business teacher explained she "did not have money to maintain membership in DECA." One auto-mechanics teacher reported, "he or the student paid to participate in ASSET" which also has links to the community college. Another teacher is "thinking about sponsoring Future Farmers of America, but has no support or resources."

Internships and Related Opportunities

CTE students appear to have limited opportunities for internships, coop assignments, and related opportunities. Most of the teachers we visited expressed frustration with the lack of support from coop teachers; however, many pointed out that there now are only two such teachers to support CTE students in 10 schools. There appear to be two types of coop assignments, (1) COOP A for students enrolled in approved CTE programs with solid PSSA scores; and (2) Coop B for special needs students, getting them work permits and then following up with both student and employer to ensure the coop experience is productive and effective. Common to both types is the development of training plans based upon career objectives. We are told that the reduction in coop teachers had a large impact on special education students. CTE staff estimated that the current number of students in coop experiences would more than double if the staff was available to arrange and supervise the internships.

Some teachers develop coop or intern opportunities for their students. For example, "hoping that students see something besides the classroom," one health careers teacher used her contacts at a local hospital to develop internships for six seniors. Others encourage students to volunteer for opportunities such as the recent Pittsburgh Race for the Cure and other community based programs. Individual teachers may support students wanting or needing work; but students seem to find work experiences (related to their studies or not) on their own.

Postsecondary Learning Opportunities

In addition to the discussion about coherence, it must be said that the connections to the local community and technical colleges and the universities provide an untapped resource for PPS. By connecting students and teachers in high school to the opportunities available for education and training after high school, many more students would recognize and take the path to postsecondary education. Students need to be encouraged to attend college campus visitation programs, sit in on classes, and see the career opportunities available to them. This can be a major motivator to those students who do not yet see a purpose for education.

Assessments and Accommodations

Assessments of Vocational Interests and Abilities

Effective CTE programs start in elementary school and give students opportunities to learn about careers and develop their interests. By middle school, students should have participated in a career interest inventory that feeds into the development of the high school course sequence plan. Even though a career interest inventory is vital to a student's course planning, we were told that there is no career interest inventory in place.

In the past, Perkins funds paid for a career awareness system by Bridges to work with high school students with disabilities. The Keys2Work career development system provided all 10th graders the opportunity to take three WorkKeys assessments which resulted in a profile of their reading, mathematics and locating information skills. These assessments were linked to occupations of interest and were used in the career preparation and planning program.

However, the website links are from the 2004-2005 school year and have not been updated. We understand that the assessments were eliminated from the budget for the 2006 – 2007 school year, and there are currently no assessments required for all students. Students who meet with career counselors to start work on their career development portfolios are encouraged to use the Choices software to identify interests; however, this is too late to ensure that the students have taken the appropriate courses in high school to reach their career goals.

Feedback on Student Progress Related to Standards

Feedback is given by individual teachers to students on their progress in the class, and we did see evidence of comments on student papers in some student folders in a few classrooms. In others, teachers provided informal coaching and feedback to students on projects. There are national certification assessments available to students in certain courses, such as the American Welding Society exams for welding students and the National Occupational Competency Testing Institute (NOCTI) assessments given at the end of many programs. In addition, industry and/or state certifications are available in some areas: Cosmetology, Microsoft Office, Cisco, A+, and CompTIA. In other areas, such as Public Safety, some of the skills assessments are limited to students who are 21, or in HVAC, limited to high school graduates. But doing formative assessments of student knowledge and skills compared to state and national standards is an important part of CTE programs and absent from many CTE program in PPS.

Performance Assessments

Some teachers require and use performance assessments, but there is no district policy or practice encouraging their use.

Accommodations for Special Needs Students in CTE

While PPS reportedly has not supported pre-vocational education, it has supported students with disabilities to some extent. The number of students with disabilities enrolled in CTE has dropped; currently there are 390 students, and many are enrolled in such areas as culinary arts, child care, and automotive technology. Students and their parents meet with rehabilitation counselors to select programs for CTE and develop individual education plans. While one-page summaries of the plans and recommendations are shared with teachers, there appears to be little accountability for their implementation. CTE teachers are not included in planning or plan modification meetings, a point confirmed by several CTE teachers. There appear to be relatively few students with disabilities in CTE who have formal accommodations for their coursework although CTE teachers and School to Work assistant teachers try to make them as necessary. The assistant teachers are currently supported by Perkins funds, but will move to Special Education funding as of next year. CTE teachers are often not informed that the student has a disability when the student is placed in their class. Teachers reported that in culinary arts, up to 50 per cent of the students enrolled are students with disabilities.

School to Work Assistant Teachers provide support to these and other special needs students. PPS has reduced these Assistant Teachers from 17 to four. While they expose students to lessons and show them how to do math and reading, they are few in number and rotate through the 10 high schools. With increased travel, they report that they spend much of their time "catching up on where students are" and not enough time working with students. They

say that they have no connection with special education. While some schools have learning support aides, they are not part of the individual education plan meetings.

The PPS vocational rehabilitation counselor develops and operates programs for special education students "outside the system." These are longer term, labor intensive and expensive programs. The vocational rehabilitation counselor wrote and won a competitive bid from the Three Rivers Workforce Investment Board to establish a program that pays wages of students.

<u>**Opportunities for Intervention**</u>
The majority of teachers interviewed identified the lack of basic academic skills of their students as a major issue, and they reported that students received a support period connected to the math and or English course they were taking, or a double period of Ramp Up in the schools where that was available. Beyond that, teachers try to address the inadequacies by modifying the standards in their courses to student performance levels. However, several noted that the students' lack of reading ability kept them from attempting or being able to pass the state and national skills certification assessments, despite their ability to perform the skills required in the assessment.

<u>**Final Summative Assessments and Credentialing**</u>
We heard anecdotal evidence of the use of CTE in the graduation projects, such as senior projects in electronics programs and A+ Certification/IT Essentials – building AM/FM radios and fixing computers no longer needed by PPS, and in pre-engineering where students did virtual senior projects in their Envisioneering course. We also heard about certifications in auto mechanics, Microsoft office, cosmetology, welding, and air conditioning and refrigeration.

Resources and Administration

<u>**Budget**</u>
There appears to be no clear CTE budget planning guidance – assumptions, goals, and priority initiatives – for use by CTE administration and principals. Reportedly there are several parties in central administration engaged in the preparation of the budget – the Deputy Superintendent who provides "priorities and guidance" to the budget office; the Curriculum office that also "sets policies"; and for Perkins funds, CTE that also provides "priorities" for the budget. Within overall guidance, principals also appear responsible for establishing priorities and developing budgets accordingly for the programs and services within their schools. The lack of budget clarity may be due, in part, to the overlapping activities of various divisions within PPS. We are told that it is difficult to "stay on top of the budget during the course of the year" and that "staff need to pay attention to costs and plans." We agree. It does not appear that any level knows whether funds are being spent efficiently and effectively. Over $300,000 in Perkins funds were returned to the state last year.

A second major issue raised in almost every school was the division of funds between central budgets and school budgets. Since PPS does not use a weighted student funding model that provides additional funds for each CTE student in recognition of the state requirements for lower student-teacher ratios, principals must either subsidize the lower class sizes in CTE with larger class sizes in other courses or eliminate CTE courses with small enrollments. Both strategies are currently being used in PPS. In addition, principals see the supply funds designated for the CTE programs at their schools as discretionary funds they can use as needed at the school. Since CTE takes money from other programs in staffing, some principals feel justified in using the supply funds for academic needs. This is a logical response to a poor system of allocating funds. In districts using a weighted student funding model, CTE students receive additional funding of 35 percent over and above funding for general students, economically disadvantaged or at-risk students, students with disabilities, and English Language Learners. In a program with CTE students who are at-risk and have disabilities, funding might be 165 percent of the general student funding. This allows principals to accommodate the needs of those students without penalizing other students.

Equipment
Most labs we saw had state of the art or up to date equipment. In some programs, state of the art equipment was unused because of the small numbers of students enrolled in CTE courses. One principal complained about equipment that had been delivered to an auto technology course because she did not see the need for it in comparison to the greater needs of the student body at her school. Equipment generally was purchased with Perkins funds while supplies or consumables were purchased with site (school) funds. Where relationships with principals were supportive, obtaining funds for supplies was relatively easy. For others, obtaining funds was not.

Administration
The PPS has neglected CTE for the past few years and as a result there is no longer a CTE system in place. No one has clear roles and responsibilities for CTE, and it appears to have few champions. PPS now has no clear vision of CTE. There are no performance expectations for CTE based upon high standards consistent with business and industry requirements. Principals report that they are not confident in their ability to evaluate CTE teachers or evaluate the CTE programs at their schools. If a principal decides a CTE program is not attracting enough students or if the teacher is not good, he or she may close the program. There is no accountability at any level. Resources are reduced, CTE student numbers are low, and some programs have closed. And regional employers report they are looking elsewhere for skilled workers to meet their needs. To improve CTE will require time and a transparent, inclusive process. PPS leadership will be critical to success.

Placement of CTE Administration
The positioning of CTE in the administrative structure needs to be reviewed. Currently it is on its own with an absent director and little oversight. Academic and CTE learning should be viewed as equal in value, with parity in management and similar attention. CTE must be positioned to enable it to secure new, or strengthen current, partnerships and resources. It can be a model for high school reform.

In addition, budget authority needs to be rethought. Providing supply funds to principals with no requirements that the funds be spent on CTE supplies is counterproductive. It leaves programs in competition with other programs at the school level, and it may result in programs not receiving the materials required for successful implementation.

Recommendations

Business, Industry and College Involvement with the Pittsburgh Public Schools

High quality and effective high school career and technical education programs around the country generally involve a strong collaborative relationship with the business/industry and the college communities. In the Pittsburgh Public Schools, this relationship is limited and does not begin to serve the students—future citizens and workers—or the economic and workforce development needs of the community. Business and industry, the higher education community and PPS have a shared interest in improving students' academic performance and helping them acquire higher level academic and workplace skills.

Further, in today's rapidly changing and technologically advancing world, a school district cannot afford to separate students into two groups: those who are going to college and those going to work. A significant number of careers now require some postsecondary preparation after high school, including the majority of the fastest growing occupations. In the nation's most successful technical high schools, large percentages of graduating students are transitioning into two-year and four-year college programs to complete their schooling. Clear examples of the increased need for additional education are found in the fields of biotechnology, robotics, database management and allied health.

During the Pittsburgh Public Schools visit, the Chartwell Education Group found that business and industry had been involved with career and technical education over the years. That relationship, however, has weakened over time to the point where the involvement of the business and industry sector is limited to serving on technical advisory committees, which meet only once a year, and to providing a small number of field experiences, job shadowing or internships for students. Coop student programs have been reduced in terms of the numbers served. There are limited articulation agreements with the community college, and dual credit courses are available for the academic courses, but not career and technical programs of study. Interviews indicated this could be because there is a belief that the career and technical training students receive in the Pittsburgh Public Schools is not adequate to qualify for college as well as high school credit.

The broader business community, as well as the Three Rivers Workforce Investment Board, would welcome stronger, shared linkages with PPS. The following suggestions provide the outline for future collaborative work.

Long-Term Recommendations
1) The superintendent should convene a Blue Ribbon Leadership Committee comprised of high level corporate, higher education, government, and workforce leaders. The purpose of this Committee would be to communicate the urgency for change and to examine the future K-16 education, economic and workforce development needs of the Pittsburgh community. (While there is currently a High School Reform group, this Committee would serve a different, broader purpose.) The superintendent and school board president might join with the mayor, the executive directors of the Greater Pittsburgh Chamber of Commerce and the Three Rivers WIB, and with the Carnegie

Mellon and University of Pittsburgh chancellors to assemble this committee and to serve as executive members. It is understood that these high level executives do not have a lot of discretionary time. They will be asked to participate in a retreat that uses information available from the TRWIB to:

    a. Identify the economic and workforce development needs through 2015;
    b. Identify the corresponding educational needs through 2015;
    c. Identify the current weaknesses in the various systems and the capacity of the Pittsburgh area to meet these needs; and
    d. Identify next steps for addressing these needs.

2) Finally, this group will identify one person from each of their organizations to serve on the Blue Ribbon Working Committee to develop a short and long-term community strategic plan.

3) The Blue Ribbon Working Committee will create a strategic plan to address the issues identified by the Blue Ribbon Leadership Committee and the needs identified by the Chartwell Education Group team. These plans will include actions to create an effective postsecondary education and career planning system for K-16. Presented to the group will be the recommendations and the options for high school program configuration presented by the Chartwell Education Group. The program options include full-time high school CTE centers as well as career offerings through quadrants. (Found in the next section) They will compare these suggestions with the findings of the Committee. Community/corporate/foundation support should be much stronger for meeting needs such as new school buildings because there has been a complete, collaborative community study in addition to the external review.

4) As the Blue Ribbon Committee works, recommendations will come forward for program options within the Pittsburgh Public Schools. Regardless if these programs are in new schools, in existing schools or in offerings throughout the four quadrants of the city, a steering committee comprised of business, industry and college persons will be needed to provide recommendations on program design, curriculum, experiential components for both staff and students, student recruitment procedures, equipment, etc. These steering committees can grow out of the Blue Ribbon Committees, and they should provide their recommendations to the PPS Perkins Planning Committee.

Short-Term Recommendations

There are a variety of short-term recommendations in this area:

1. Immediately appoint a PPS representative to fill the current school district vacancy on the Three Rivers Workforce Investment Board.

2. Take steps to strengthen the relationship with the TRWIB and, through them, with the trade, industry, economic and community organizations in Pittsburgh.

3. Commission the development and presentation of an electronic toolkit on labor market information for use by counselors and career and technical educators.

4. Explore with the TRWIB an expanded summer work program for students enrolled in career and technical education programs, such as internships and apprenticeship opportunities.

5. Examine the current advisory committees for career and technical education programs and work at expanding those committees to include a broader industry representation. Design a format for the advisory committee meetings with expected meeting outcomes, and identify a chairperson who represents industry.

6. Identify the industry standards for each current career and technical program and develop a checklist for teachers and advisory committee members to utilize in aligning CTE course content with industry needs. Create an inventory of equipment needs and identify which funds will be used to provide for those upgrades.

7. Identify ways in which the TRWIB, business and college communities can assist with career awareness and career exploration at the elementary and middle grade levels. Assign these responsibilities to a PPS office and track the programs to ensure that all schools are served and that, in conjunction with the PPS guidance office, there is a sequential plan in place that responds to the Pennsylvania Department of Education's career education directives for elementary-secondary education.

8. Explore opportunities for counselors, instructors and school principals to engage in stronger professional development experiences in the corporate and higher education communities through internships, externships, conferences, or educator shadowing so as to broaden their knowledge.

9. Secure the participation of a business or trade association to develop a new policy on expanded entrepreneurship learning activities, including school-based enterprises and explore with CCAC the adaptation of best practices through the National Association for Community College Entrepreneurship that facilitates the transition of secondary career and technical education completers into postsecondary education and training programs.

10. Involve more business, industry and higher education representatives to serve as judges for the PPS course projects and senior graduation projects.

11. Create more for-credit internship experiences for secondary students in their third and fourth years that directly link to their career and technical and postsecondary interests.

12. Identify a business or industry group to sponsor a career awareness survey for 6th grade students that PPS would administer as part of its testing schedule. This would help inform students of their own interests, encouraging broader career exploration, as they make decisions about what high school programs they enter.

Potential Configuration for Technical Education Offerings in the Pittsburgh Public Schools

<u>Employment Sectors</u>
In researching Allegheny County top employment sectors, the following areas were identified as current and future areas of growth:

1. Health Care
2. Retail
3. Accommodations/Food Service
4. Manufacturing
5. Scientific and Technical Services
6. Finance
7. Construction

<u>Options for Program Configuration</u>
Students could benefit from a variety of options for program delivery. There are several possibilities that are currently used effectively in urban school districts. In addition to large integrated academic and career centers, specific career clusters could be included in selected schools across the city. There are a number of options for organizing these programs inside the larger existing high schools. As the Committee on High School Reform determines the options for best serving high school students, it might consider options 2)-5) below which would combine well with CTE focus areas. Additional background information on the options of smaller learning communities and career academies is contained in Appendix III.

1. A centrally-located academic and technical high school that operates as a four-year, full-day institution. Students who elect to attend such a school do so as their chosen high school, which prepares them for both postsecondary education and entry into the workforce. Student offerings include well-defined career pathways, as well as core academic subjects and advanced courses and opportunities for sports, drama, music, art and other activities that are available in a comprehensive high school. The greatest benefits would be experienced by students electing to enter in 9th grade, but students in 10th or 11th grade should be encouraged to enroll as well, depending on available capacity. Examples of this type of approach exist in the St. Louis, MO Public Schools and in the Chicago, IL Public Schools.

   It is proposed that PPS develop a Science, Technology, Engineering and Manufacturing (STEM) Center and a Health and Medical Sciences (HAMS) Center. They would be designed with both academic and career-focus teachers organized into a series of smaller learning communities. This configuration would encourage project-based learning experiences as academic and CTE teachers worked together to integrate rigorous academic instruction with career and technical programs of study. Career and technical education students would benefit from citywide collaborations with business, industry, community colleges and universities. The HAMS Center would be ideally located in the medical center so that students would be able to participate in shadowing and internship experiences throughout their education. The centers would be large enough to ensure that advanced academic and elective classes could be shared across the smaller schools. The centers would be available to students citywide and

would join the Creative and Performing Arts Magnet School in downtown Pittsburgh as options for students.

The career focus schools suggested for inclusion within the centers are listed below:

Science, Technology, Engineering and Manufacturing (STEM) Center
- Science Focus:
    Horticulture/Landscaping
    Astronautics
    Electronics technology
    Chemical engineering
    Industrial technology
- Technology Focus:
    Network systems
    Information support and services
    Programming and software development
    Interactive media
- Engineering Focus:
    Engineering technology
    Architectural engineering
    Construction engineering: carpentry, HVAC, plumbing, electrical, etc.
    Pre-engineering: Project Lead the Way
    Software engineering
- Manufacturing Focus:
    Robotics technology
    Machine operations
    Welding
    Maintenance installation and repair
    Logistics and inventory control
    Advanced Manufacturing

Health And Medical Sciences (HAMS) Center
- Therapeutic services programs:
    Nursing
    Dental laboratory
    Medical technician
    Physical, occupational and respiratory therapy
- Diagnostic services programs:
    Radiologic technology
    Nuclear medicine technology
    Genetics and pathology
- Health Information programs:
    Medical records and library services
    Medical billing
    Health care administration

■ Biotechnology research and development programs:
    Pharmacy
    Phlebotomist and microbiologist
    Tissue engineering

2. A smaller learning community (SLC) is a cadre of students and staff who are scheduled and located together as a cohort group within a larger high school. An SLC has a theme or something that ties the cohort group together and fosters what is called the 3 R's: rigor, relevance and relationships. For example, ninth grade SLCs have become popular around the country. Ninth graders are grouped together in a school and broken down into smaller cohort groupings of staff and students so that incoming freshmen are in a personalized, academic environment as they get acclimated to high school. Key support structures for students include data-driven instruction, mentoring, career exploration, and advisories. Good examples of this are in South Grand Prairie, Texas High School and in the Boston Public Schools.

3. Themes or subject areas are another organizational model for a smaller learning community. A school may have smaller learning communities focused on math and science, social studies, international studies, environmental studies, or the arts. Students and staff are grouped into a cohort around students' strengths and interests in the particular area.

4. Career academies are smaller learning communities grouped around an industry or career theme, such as Biotechnology, Finance, Law Enforcement, Health Sciences, Media or Information Technology. An advisory group comprised primarily of industry and higher education representatives helps to guide the academy, providing human, technical and often financial support. The senior year is often highlighted by internships and senior capstone projects.

5. Some of the current programs, such as the Pre-Engineering, are magnet offerings. They draw students from all over the Pittsburgh metropolitan area and provide a rigorous sequence of courses. Strong magnets struggle with issues of capacity, especially where they are only allowed to recruit students for the 9th grade class and are unable to fill vacancies created by 9th grade transfer students with new students in grade 10.

6. An additional option is to combine models. For example, a strong magnet program looking to expand could easily do so by morphing into a magnet career academy. Taking the core magnet theme and intertwining core academic teachers into it provides a way to add more students who then rotate among a variety of academic and magnet-theme classes. Magnets benefit from the career academy model where they are able to recruit students, integrate academic and career-focused classes, schedule students as needed within the academy to accommodate student needs, and establish a strong relationship among students, teachers and staff. This is done very effectively in the Palm Beach, Florida schools; Houston, Texas schools; and many other cities.

Options for Quadrant Offerings

The options for CTE programs listed below would be spread among the four quadrants of the city and located within existing high schools. Not every quadrant would necessarily have the same offerings; however, these programs are popular and require multiple sites to meet student demand. The programs either are not dependent on expensive, state-of-the-art equipment or already have the equipment needed in multiple locations across the city.

1. Business, Management and Administration programs:
    a. Finance and accounting
    b. Marketing
    c. Administration and information support
2. Hospitality Programs:
    a. Culinary
    b. Hospitality and Tourism
3. Public Safety and Law Enforcement programs:
    a. Fire and Police
    b. Public safety and security
4. Early Childhood Development Program
5. Cosmetology Program
6. Customer Service
7. Fashion Design
8. Journalism And Broadcasting Program
9. Audio And Video Technology Program

Costs of CTE Program Options

It is difficult to estimate the costs of creating the program options identified above. The collaboration with business and industry as well as the postsecondary education and training institutions may provide opportunities for donations and shared costs to establish an effective system of career and technical training that will provide highly skilled workers at the end of high school or postsecondary education. For example, many cities share their centralized CTE sites with community colleges and with business and industry so that costs can be shared, state-of-the-art equipment can be provided, and the spaces can be utilized 12-14 hours each day and on Saturdays. This would maximize the use of the facilities and equipment, and encourage business and industry to donate and maintain state-of-the-art equipment and share instructors with industry credentials and standards. Different businesses or industries could furnish specific labs-The XYZ Advanced Manufacturing Laboratory or the ABC Biotechnology Research Laboratory-- and have access to them at night or at specified hours if the centers are open to students from 8:00am-9:00pm. Having students attend industry-standard courses with adults as happens at community colleges would be a benefit to the students as studies have shown that students take such classes more seriously. In this way, students are offered a superior facility in which to learn, one that truly prepares them to leave school and enter the workplace ready to use current equipment and processes. In Appendix IV are a series of cost estimates for programs and equipment recently built or purchased in other school districts.

Options for Scheduling

The report assumes a traditional school calendar, but it is clear that the current schedule keeps students from course and internship opportunities that they would like to take and from which they would benefit. One of the questions PPS should consider is whether different models for scheduling high schools, including the community college model of 8:00 am until 9:00 pm would improve the opportunities available to students and the high school completion rates for students. Obviously neither students nor teachers are asked to be there for 13 hours per day from 8:00 am until 9:00 pm, but it does allow much more flexibility for scheduling classes and arranging for extracurricular activities, co-curricular activities and internships in a great variety of institutions from businesses and industry to art museums, science centers, libraries, and performing arts centers.

Pre-K-12 Guidance and Counseling System

Goals

The new Pennsylvania Academic Standards for Career Education and Work require that students in elementary through high school meet career education and work standards in four areas:

- Career awareness and preparation
- Career acquisition
- Career retention and advancement and
- Entrepreneurship

The purpose of these standards is to ensure that all students complete high school ready to succeed in "a rapidly changing workplace that demands continuous learning and innovation on the part of workers."[12]   The standards are contained in Appendix V.

PPS does not currently have a system in place to ensure that students at grades 3, 5, 8 and 11 meet these standards.   By grade 3, students should have identified their personal interests, explored how people prepare for careers, and understand the connection of work people do in their careers to what they have learned in school. For all students to achieve these and other standards at the required grade levels, there needs to be a coherent guidance and counseling system that includes a robust career education component that is integrated with academic coursework at elementary schools and with academic and CTE coursework at middle and high school levels.

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[12] 22PA Code Chapter 4 – Career Education and Work Academic Standards, Annex A, p.3

Recommendations

The Career Awareness and Career Exploration activities in K-8 are designed to empower students to make wise decisions and take charge of their futures. Parent involvement activities can take place each semester to introduce parents to the various career trends and career pathways. In this way, parents and students are informed and can make wise decisions regarding career choices when entering high school.

Elementary School: Introduce *Career Awareness*
1. Align the current academic standards and the new career education and work standards in the elementary curriculum.
2. Develop suggested activities that teachers can use to address the new standards within the academic curriculum.
3. Provide elementary students with opportunities to participate in a full range of integrated classroom activities designed to introduce various careers to them.
4. Include career education in information sent home and meetings with parents so that they are aware of the opportunities available to their children.
5. Analyze the elementary guidance curriculum and determine how best to address career education and work standards.
6. Implement the enhanced guidance curriculum in all elementary schools.
7. With collaboration of the CTE Department and industry groups, develop career modules around various industries to be showcased on elementary campuses. Students would rotate through various aspects of the industry to get a sense of what the industry is about. The CTE Department staff and industry representatives would also identify the type and level of math, science and language arts needed in each career. This will enable students to appreciate the relevance of the academic curriculum at an early age and strive for academic readiness.
8. Work with local businesses, industries, or the TRWIB to create week-long CTE summer camps at elementary schools. Members from business and industry could come in and demonstrate their technology or craft. Elementary schools could follow up these experiences with field trips to the work sites to see the technology or craft in action. Parents can also be involved by demonstrating aspects of their jobs.

Middle School: Provide *Career Exploration*
1. Align the current academic standards and the new career education and work standards in the middle school curriculum.
2. Develop suggested activities that teachers can use to address the new standards within the academic curriculum.
3. Administer career aptitude and interest inventory in 6th or 7th grade English classes. This information can be sent home so students can make appropriate decisions regarding course selections with their parents.
4. Schedule meetings with parents that include information about career interest inventories and career education so that they are aware of the opportunities available to their children and the academic and CTE coursework and skills required to succeed. Send information home to those parents that are unable to attend meetings. Be sure it is written to maximize parent understanding of the importance of career exploration and preparation to their children's future.

5. Set up career centers in middle school libraries so students can research careers and develop ideas for talks with guidance counselors and/or librarians about various careers.
6. Develop a set of research activities that can be integrated into core classes on career pathways that will be offered at the high school level. This can be accomplished through collaboration of the CTE and Curriculum Department staffs with the TRWIB and industry representatives.
7. Schedule guest speakers from business and industry to talk about a variety of careers during the school year at career days or monthly assemblies.
8. Identify Job Shadowing activities in conjunction with guest speakers from different industries.
9. Establish e-mentor opportunities for middle school students with professionals in different career areas.
10. Sponsor career days or recruitment activities that will introduce middle school students to high school programs. This can be accomplished by high school program representatives, including CTE students, visiting middle schools or by having opportunities for all 8th graders to visit high school programs in the fall of the year prior to high school course selection and school selection. CTE programs could invite counselors and eighth graders to the high school to review CTE course programs. A display of course projects is always interesting.
11. Hold a district-wide career fair in a large facility. Invite eighth and ninth graders for three types of activities: CTE student guest speaker to set the tone and give the charge; displays from all the major colleges, businesses, and industries in the area; and an interactive area demonstrating CTE areas, such as auto repair and design, global positioning satellites, multimedia, carpentry, plumbing, surveying, heavy-equipment operations, architecture design, etc.
12. Complete a 4-year plan that reflects a 4-year coherent sequence of courses in a career pathway based on aptitude and interest inventory, grades and other indicators, as well as the appropriate academic courses to maintain options and achieve success in that career pathway.

High School: Career Connections
1. Ensure that academic and CTE counselors regularly--at least annually--audit student's records to continue coherency of CTE coursework as well as successful completion of academic and elective courses.
2. If students are double blocked in academic courses for remediation in the 9th and 10th grades, use summer school to provide the opportunity to keep students in a coherent sequence of CTE courses and on track towards completion. Students could complete social science or elective courses in on-line or summer school programs to create space in their schedules for CTE courses.
3. Schedule guest speakers from business and industry to talk about a variety of careers during the school year at career days or monthly assemblies.
4. Identify Job Shadowing activities in conjunction with guest speakers from different industries connected to the career clusters pursued by students at that high school.
5. Establish e-mentor opportunities for high school students with professionals in the student's career cluster area.

6. Sponsor career days or recruitment activities that will introduce high school students to business and industry opportunities and postsecondary education and training opportunities. Encourage parents to attend these events as well.
7. Arrange for internships in specific industries identified by the students for after school, on weekends, or during the summer.
8. Arrange for coop experiences for students who are able to use time during the day for their internships or paid experiences.
9. Establish opportunities for students requiring remediation to complete a coherent sequence of CTE courses

Central Office
1. Develop a notebook (Tool Kit) with CTE policies and procedures that provides information on coherent sequences of CTE courses, the definition of completer status and its importance for student success in the career cluster area, the use of Perkins funds, the definition and description of articulation agreements with postsecondary institutions of education for tech prep programs and dual credit course opportunities, and the importance of and membership in CTE advisory committees. CTE Notebooks from other districts can be made available upon request.
2. Develop a series of professional development sessions for counselors and principals on labor market forecasts for the Pittsburgh region as well as Pennsylvania and the United States; CTE programming, standards, equipment and supply needs; and CTE teacher evaluation standards. Differentiate the meetings for elementary, middle and high school levels.
3. During the summer and on teacher in-service days, take counselors to businesses and industries to expose them to the latest technology and to the use of the latest labor market forecasts.
4. Analyze the current Coop Counselor system. With only two coop counselors, the number of students who can engage in supervised cooperative work experiences is limited. The coop counselors estimate that they will serve up to 150 students this year, but they estimate interest at about 400 students. Since the coop counselor is responsible for monthly on-site supervision as well as placement into a work experience, there is a limit on the hours available. Each coop counselor is available for 1.5 hours per week to meet with coop students on each high school campus. This does not make a coop experience accessible to most students. Some school systems use CTE teachers to supervise on release time or after school.
5. Analyze the effectiveness of the current Career Counselor system. With five people, only three of whom have a CTE background, the system is ineffective. Teachers and principals indicated that they were not sure of their mission or their activities. The counselors are frustrated that they do not have the time to do career counseling because they are working with students across ten schools. Much time is spent with 11th and 12th grade students on the development of a career portfolio which is now a requirement for 8th graders in the Pennsylvania Academic Standards for Career Education and Work. According to the standards, 11th grade students are expected to revise and refine the portfolio with respect to a specific career area.

The current number of career counselors cannot assume the responsibilities for Pre-K-8 that are envisioned in the new standards and that are a necessary part of a coherent Pre-K-12 guidance and counseling system. CTE teachers can also serve as career advisors based on the career pathway and coherent sequence of courses that the student has selected. Teachers are in the best position to identify the student's passions and abilities and to encourage him/her to follow the current career goal or to select another career goal. This makes counseling and guidance a school-wide endeavor.

If academic counselors are to assume these responsibilities, they must be prepared to do so. The section "Professional Development for Counselors" below contains recommendations for the development of counselors for career education.

Professional Development Opportunities for Counselors

Counselors interact with and extend themselves to students in many ways. One of their major responsibilities is to expose students to the variety of career and college options open to them. To design an effective and efficient system of professional development for counselors on both career and postsecondary education and training options, PPS could set up a series of half-day conferences for all counselors.

Create a planning committee of CTE staff and academic counselors to:

1. Brainstorm the career and college areas to be explored;
2. Establish conferences on the various topics;
3. Advertise the offerings; and
4. Serve as the host/hostess for the conferences.

The Career Education Office staff can do all the practical planning, advertise the events and take registrations, handle all logistics, and write appropriate thank you notes.

The format for each half-day conference at a business or postsecondary education or training site might include sharing information with the counselors on the business/college prior to the conference, providing a tour and discussion with top management and key personnel, exposing the counselors to the hiring expectations and hiring process, using a structured conference form that guides the observations and note-taking of the counselors, and allowing a short time for debriefing at the conclusion of the conference on how the information learned that day at the conference would be utilized with students. A similar series of conferences could be done for principals.

Conclusion

The Pittsburgh Public Schools is poised to establish an effective and efficient educational system for all students. With an effective guidance and counseling system, effective CTE program options available at a variety of locations, and a close and collaborative relationship with the business, industry and postsecondary education institutions in place, the Pittsburgh Public Schools will provide a coherent and effective CTE program for students. Combining the recommendations of the High School Task Force and the CTE review will provide the students of PPS with an effective high school program.

With career awareness and career exploration available to all students in elementary and middle schools and a rigorous academic program integrated into the CTE program at secondary schools, students will graduate ready for careers that start immediately after high school as well as those that require postsecondary education and training. As a result, The City of Pittsburgh will have a highly-skilled, highly-schooled, and highly-motivated workforce that will excel in the 21st Century.

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Appendix V
Proposed Pennsylvania Academic Standards for Career Education and Work

Appendix I

Employers' Perspectives on Applied Skills and Basic Knowledge for New Entrants to the 21st Century U.S. Workforce

The following content and tables are adapted from a report, "Are They Really Ready to Work? Employers' Perspectives on the Basic Knowledge and Applied Skills of New Entrants to the 21st Century U.S. Workforce," in which 400 employers from across the United States were surveyed. These employers articulated skill sets that new entrants need to succeed in the workplace.[13] Following are two tables adapted from the findings that display the respondents' perspectives on workforce entrants who have completed high school education.

Table 1: Applied Skills—High School*

When asked to rate the importance of applied skills to current high school and college graduates' successful entry-level job performance, substantial majorities of employer respondents report applied skills as being "very important," their responses were consistent across the three educational levels.

For high school graduates, the five most frequently reported applied skills considered "very important" for successful entry level job performance are: Professionalism/Work Ethic (80.3 percent), Teamwork/Collaboration (74.7 percent), Oral Communications (70.3 percent), Ethics/Social Responsibility (63.4 percent), and Critical Thinking/Problem Solving (57.5 percent).

High School

Rank	Basic Knowledge/Skills	% Responded
1	Professionalism/Work Ethic	80.3
2	Teamwork/Collaboration	74.7
3	Oral Communications	70.3
4	Ethics/Social Responsibility	63.4
5	Critical Thinking/Problem Solving	57.5
6	Information Technology Application	53.0
7	Written Communications	52.7
8	Diversity	52.1
9	Lifelong Learning/Self Direction	42.5
10	Creativity/Innovation	36.3
11	Leadership	29.2

Basic skills rank ordered by percent rating as "very important."
Number of respondents varied for each question, ranging from 352 to 356.

*Applied Skills refer to those skills that enable new entrants to use the basic knowledge they have acquired in school to perform in the workplace. See "List of Skills" below.

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[13] "Are they ready to work? Employers' perspectives on the basic knowledge and applied skills of new entrants to the 21st century U.S. workforce," The Conference Board, Corporate Voices for Working Families, the Partnership for 21st Century Skills, and the Society for Human Resource Management, 2006.

Table 2: Applied Skills and Basic Knowledge: Combining and Ranking—High School

In examining the specific applied skills, it is valuable to consider the relative rankings of a combined list of basic knowledge areas and applied skills. One difficulty in defining the ideal skill set needed for new entrants' workforce readiness is determining the relative importance of basic knowledge, such as

Reading Comprehension, Writing in English, Mathematics and English Language skills, and the applied skills, which are often considered to be more social or behavioral. While several of the applied skills are social or behavioral in nature, others, such as Critical Thinking/ Problem Solving and Creativity/Innovation,

are also based on cognitive abilities (see Definition of Terms, pages 15–16). To determine how employers view the relative importance of basic knowledge versus applied skills, both skill sets are combined and the overall rankings are considered for Table 2

High School

Rank	Basic Knowledge/Skills	% Responded
1	Professionalism/Work Ethic	80.3
2	Teamwork/Collaboration	74.7
3	Oral Communications	70.3
4	Ethics/Social Responsibility	63.4
5	Reading Comprehension	62.5
6	English Language	61.8
7	Critical Thinking/Problem Solving	57.5
8	Information Technology Application	53.0
9	Written Communications	52.7
10	Diversity	52.1
11	Writing in English	49.4
12	Lifelong Learning/Self Direction	42.5
13	Creativity/Innovation	36.3

List of Skills

Basic Knowledge/Skills*

- **English Language (spoken)**
- **Reading Comprehension (in English) Writing in English (grammar, spelling, etc.)**
- **Mathematics**
- **Science**
- **Government/Economics**
- **Humanities/Arts**
- **Foreign Languages**
- **History/Geography**

Applied Skills **

Critical Thinking/Problem Solving—Exercise sound reasoning and analytical thinking;use knowledge, facts, and data to solve workplace problems; apply math and science concepts to problem solving.

Oral Communications—Articulate thoughts, ideas clearly and effectively; have public speaking skills.

Written Communications—Write memos, letters and complex technical reports clearly and effectively.

Teamwork/Collaboration—Build collaborative relationships with colleagues and customers; be able to work with diverse teams, negotiate and manage conflicts.

Diversity—Learn from and work collaboratively with individuals representing diverse cultures, races, ages, gender, religions, lifestyles, and viewpoints.

Information Technology Application—Select and use appropriate technology to accomplish a given task, apply computing skills to problem-solving.

Leadership—Leverage the strengths of others to achieve common goals; use interpersonal skills to coach and develop others.

Creativity/Innovation—Demonstrate originality and inventiveness in work; communicate new ideas to others; integrate knowledge across different disciplines.

Lifelong Learning/Self Direction—Be able to continuously acquire new knowledge and skills; monitor one's own learning needs; be able to learn from one's mistakes.

Professionalism/Work Ethic—Demonstrate personal accountability, effective work habits, e.g., punctuality, working productively with others, and time and workload management.

Ethics/Social Responsibility—Demonstrate integrity and ethical behavior; act responsibly with the interests of the larger community in mind.

*For the most part, this list of basic knowledge and skill areas includes the core academic subjects as identified by the No Child Left Behind Act of 2001.
**The list of applied skills was derived primarily from the Partnership for 21st Century Skills. In addition, several members of The Conference Board's Business and Education Council were consulted.

Three Rivers Workforce Investment Board Youth Policy Council
Work Ready Competencies

November 1, 2005

The work ready competencies below were developed by the Three Rivers Workforce Investment Board (TRWIB), the Philadelphia Workforce Investment Board, and the Philadelphia Youth Network. These competencies are designed to provide youth employment programs with the most accurate listing of competencies that youth should be striving to obtain in order to be marketable for **entry-level** positions in our region. The TRWIB recognizes that specific industries have specific qualifications and skills that they are seeking in entry-level applicants. However, these competencies are designed to reflect the universal basic competencies that **any industry** is looking for in their entry-level employees. Ultimately, these competencies are aimed at assisting employers in finding stronger entry-level employees who are ready to work with basic work readiness skills. These competencies have been critiqued and validated through focus groups with more than 50 regional employers.

COMPETENCY AREA	COMPETENCY
Basic Reading Skills	• Reads and recalls information at grade level completed • Demonstrates reading comprehension • Reads for a variety of learning-related and real-life work issues • Proofreads documents for correct grammar, punctuation, and organization
Basic Listening Skills	• Listens actively for a variety of purposes • Interprets meaning of instruction and interaction accurately
Basic Speaking Skills	• Speaks appropriately in both formal and informal settings • Speaks using effective communication skills • Speaks clearly using real words (avoids uhs, ums and profanity) • Makes eye contact • Demonstrates general customer friendliness
Basic Writing Skills	• Prepares a quality writing sample with correct grammar, punctuation, organization of thoughts, accuracy and completeness • Conducts and documents inquiry-based research • Writes for academic, personal, social, and school-to-career purposes • Prepares professional business writing documents (e.g. email, memos) • Understands appropriate use of email (when to use email and when not to) • Uses legible hand-writing
Basic Math Skills	• Demonstrates ability to add, subtract, multiply and divide without a machine • Solves problems in which there is a need to measure accurately—weights, measures, and volumes • Demonstrates understanding of money concepts (e.g. calculating change) • Understands the importance and implications of accuracy

COMPETENCY AREA	COMPETENCY
Basic Job Seeking Skills	• Identifies, secures, and completes all documentation needed to gain employment • Develops and completes a resume / cover letter • Identifies and explores career / vocational areas of interest and identifies careers or vocations that appropriately align with professional skill sets • Conducts a job search • Demonstrates effective interview skills including focus and use of appropriate body language and dress • Develops an interview follow-up communication strategy • Shares appropriate references • Completes appropriate clearances and background checks where applicable • Maintains proper business etiquette • Demonstrates effective communication during the job seeking process (including appropriate follow-up correspondence and information) • Demonstrates job retention if held previous employment • Understands that non work activities (i.e. activities during time off) can impact professional goals and ability to obtain and retain employment
Basic Job Retention Skills	• Responds appropriately to supervision / direction • Demonstrates dependability and reliability by coming to work on time and remaining at work for entire shift • Respects diversity (e.g. race, gender, sexual orientation, cultural heritage / traditions) • Understands the importance of teamwork • Understands the difference between verbal and nonverbal communication • Gives and receives constructive feedback • Participates fully in a task from initiation to completion • Understands workplace etiquette (including turning off cell phones at work and dealing with personal issues during non-work hours) • Knows when and how to ask for clarification on tasks and when to ask for help
Basic Life Skills	• Manages personal finances effectively • Practices effective time management • Navigates transportation systems • Maintains balance between personal and professional life • Demonstrates ability to set and achieve goals • Manages emotions appropriately • Learns how to adapt to unforeseen circumstances
Basic Technology Skills	• Understands basic computer skills (e.g. Microsoft Office Tools) • Demonstrates comfort with learning and applying various technology programs and software
Basic Personal and Social Development Skills	• Establishes and maintains personal and professional networks • Practices effective conflict resolution strategies • Demonstrates the ability to identify and assess community information • Demonstrates self-discipline, integrity, honesty, compassion, independent thinking and responsibility while role modeling appropriate business behavior • Understands and adheres to general employer policies • Establishes a positive work and school history • Understands leadership qualities, values, and behaviors • Develops critical thinking and problem solving skills

Work Ready Competencies for Participants in Youth Workforce Development Programs
The purpose for this document is two fold: (1) to develop a common language and understanding of how each of the Work Ready Competency Areas is to be defined (i.e. what the specific foundation skills are within each area) and (2) to ensure that all these competencies, are being addressed within by Youth Workforce Development Program Providers of the Three Rivers Workforce Investment Board (TRWIB). Most of these competencies will need to be assessed by Youth Workforce Development Program Providers through performance based activities that will need to be documented for each program participant. The sources for information were used to define and to improve the teaching of the Work Ready Competencies; these sources also provide the basic building blocks upon which standards are being developed in the 16 career cluster areas (Agriculture, Food and Natural Resources; Architecture & Construction; A/V Technology & Communications; Business, Management & Administration; Education & Training; Finance; Government,& Public Administration; Health Science; Hospitality and Tourism; Human Services; Information Technology; Law, Public Safety & Security; Manufacturing; Marketing, Sales & Service; Science, Technology, Engineering & Mathematics; Transportation, Distribution & Logistics).

Sources for Information:

The Secretary's Commission on Achieving Necessary Skills (SCANS) was established in February 1990 to examine the demands of the work place and to determine whether the current and future workforce is capable of meeting those demands. Commission members included 31 representatives from the nation's schools, businesses, unions and government. The Commission issued its first report, "What Work Requires of Schools," in June 1991. This report told educators and employers what students and workers need to know and be able to do in order to succeed n the work place. In its first report, the Commission identified two types of skills: competencies and foundations. Competencies are the skills necessary for success in the work place and are organized into five areas. Foundations are skills and qualities that underlie the competencies. The competencies and foundations are generic – most of them are required for most jobs.

Equipped for the Future Content Standards (EFF) was developed by the National Institute for Literacy, to answer a complex question: What do adults need to know and be able to do in order to carry out their roles and responsibilities as workers, parents and family members, and citizens and community members? EFF Standards were built on the research from SCANS and developed over a collaborative, multi-year (beginning in 1994) standards development initiative. EFF notes that "In order to carry out daily responsibilities at home, in the community, and in the workplace, adults – regardless of their education- are required to sift through a vast amount of information, often requiring familiarity with technical content, before they can make decisions that impact the well –being of families, neighborhoods, and ultimately, this country." Under such circumstances, the National Research Council report (1999) asserted, "the meaning of 'knowing' has shifted from being able to remember and repeat information to being able to find and use it."

Pennsylvania Department of Education has instituted academic standards for reading, writing, speaking and listening, mathematics, and career education and work. These essential "academic" courses provide the fundamental building blocks for all workforce training and education.

Questions within each table are meant to encourage some reflective thinking and discussions for both instructors and learners. They are meant to generate an on-going conversation about what the Work Ready competencies really mean to one's personal and professional life.

This document was created by the Allegheny Intermediate Unit 3 (AIU3) Career Dynamics Program for the Three Rivers Workforce Investment Board in order to encourage and support the Youth Workforce Development Program Providers in meeting the requirements of the Workforce Investment Act. Questions, suggestions and other considerations should be addressed to Daniel Paul at daniel.paul@aiu3.net

Three Rivers Workforce Investment Board

Developing a common understanding of work ready competencies and supporting their implementation

The following chart was created for the Three Rivers Workforce Investment Board, in support of Youth Workforce Development Program Providers, by the Allegheny Intermediate Unit's Career Dynamics Program

WORK READY COMPETENCY AREAS	MINIMUM ACHIEVEMENT INDICATORS (PERFORMANCED BASED)	SUGGESTED DOCUMENTATION (EVIDENCE FROM CLIENT)	SUGGESTED TOOLS & TECHNIQUES TO APPLY (FORMAL / INFORMAL)	SECRETARY'S COMPETENCIES FOR ACHIEVING NECESSARY SKILLS (SCANS)	EQUIPPED FOR THE FUTURE (EFF) – NATIONAL INSTITUTE FOR LITERACY (MATCHING STANDARDS)	PA DEPT OF EDUCATION ACADEMIC STANDARDS	GUIDING QUESTIONS THAT IMPROVE MEANING AND PERSONAL SIGNIFICANCE (FOR INSTRUCTOR & LEARNER)
I. READING SKILLS READS AND RECALLS INFORMATION AT GRADE LEVEL COMPLETED DEMONSTRATES READING COMPREHENSION READS FOR A VARIETY OF LEARNING RELATED AND REAL LIFE WORK ISSUES	Read at grade level WIA Basic Proficiency is 8th grade level (one education level increase is required each year of participation) TABE score: 550 (estimate for grade level 8) CASAS score:	Reading grade level report Work Keys assessment: measures a client's reading level (note: not grade level) (requires Keys2Work password) Keys2Work Reading for Information See:	Standardized achievement test(s) Key Train: Reading for Information Key Train: Locating Information Interpret the meaning of text and discuss TABE (see <testpreview.com/tabe_practice>) CASAS (see <casas.org>) STAR Reading assessment (pre and post)	Foundation Skills: • Basic Skills: *Reading :* Locates, understands, and interprets written information in prose, and in documents such as manuals, graphs, and schedules to perform tasks	Communication Skills: *Reads with Understanding:* Determine the reading purpose; select reading strategies appropriate to the purpose; integrate with prior knowledge to address reading purpose See: <nifl.gov/EFF>	RWSL Standards[3]: 1.1 Learning to Read Independently: **A** (finding text) **E** (vocabulary) **F** (new vocabulary) **G** (understand / interpret) **H** (be fluent/comprehend) (see standards for all grades 3,5,8,11) 1.2 Reading Critically in All Content Areas:	What is the purpose of what I read? What is the meaning of what I have read? What prior knowledge do I have about what I have read? What strategies might be used to improve

PROOFREADS DOCUMENTS FOR CORRECT GRAMMAR, PUNCTUATION, AND ORGANIZATION	242 (estimate to Work Keys Level 5) Proficiency Level for high school exit is grade 11 (see PA Standards) Successful Keys2Work exit from high school is Level 5 (minimal for business is Level 3 – emphasis is on following directions)	<Keys2Work.com > School records TABE CASAS	Build upon a Reading Stance[1] Note: Essentials for Learning[2]	See: <scans.jhu.edu>		A (read and understand essential content) (see all grades 3,5,8,11)	my reading? What is a reading level as it relates to a job position? Do I read well enough to function in a job in which I have an interest? Do I know and can I explain any strategies for improving reading skills?

[1] A Reading Stance refers to a person's response to what has been read. The four stances are interdependent, distinguished by the complexity and thoroughness of a reader's response and by the difficulty of the materials. All readers, regardless of age, school level, or ability, use them. The four stances are:
 a. Initial Understanding (Awareness) – a first impression or broad understanding of what is read. It may involve an overall understanding of the topic, theme or main idea.

 b. Developing Understanding (Values) – extending ideas found in the text. It may involve information across parts of the text as well as focusing on specific information. It includes drawing conclusions, interpreting a character's actions and inferring cause and effect. Ideas begin to connect to one's values.
 c. Responding Personally (In Context) – connecting information from the text with personal background knowledge and experience. It involves reflecting on a passage or incident read and then responding from a personal perspective. Also, the reader may explain why the passage was or was not interesting. Values are expressed.
 d. Responding Critically (Ethics) – forming a critical judgment about the text. It involves reflecting on the passage and judging it. It involves an appreciation of literary elements such as imagery, mood, symbolism and it may challenge an author's facts or perspective. Values are acted upon.

[2] Essentials for Learning:
 (1) Awareness & Understanding – Becoming conscious of a subject (awareness) and relating the subject to one's own experiences (understanding).
 (2) Consequences – Becoming knowledgeable of the results of one's own expressions or actions related to a subject (or idea).
 (3) Ownership – Becoming responsible for the results of one's own expressions or actions related to a subject (or idea)

[3] RWSL Standards are the Academic Standards for Reading, Writing, Speaking and Listening

Work Ready Competency Areas	Minimum Achievement Indicators (Performance Based)	Suggested Documentation (Evidence from Client)	Suggested Tools & Techniques to Apply (Formal / Informal)	Secretary's Competencies for Achieving Necessary Skills (SCANS)	Equipped For the Future (EFF) – National Institute for Literacy (Matching Standards)	PA Dept of Education Academic Standards	Guiding Questions (For Instructor & Learner)
II. LISTENING SKILLS LISTENS ACTIVELY FOR A VARIETY OF PURPOSES INTERPRETS MEANING OF INSTRUCTION AND INTERACTION ACCURATELY	Follow verbal instructions Complete instructions to tasks given verbally as they are intended to be completed Follow verbal instructions and directions from supervisor and co-workers	Instructor's referral Employer referral Complete work sample sheets developed for specific tasks, accurately and correctly	Make a listening check off sheet based on instructions that are read Work samples (e.g. telephone messaging) Use 3-5 step instructions Observe test taking; following directions in other activities \<mindtools.com \>	Foundation Skills: ■ Basic Skills *Listening:* Receives, attends to, interprets, and responds to verbal messages and other cues such as body language in ways that are appropriate to the purpose	Communication Skills: *Listen Actively:* Attend to oral information; clarify purpose for listening and use of listening strategies appropriate to that purpose	<u>RWSL</u> Standards: 1.6 Speaking and Listening: <u>A</u> (listen to others) <u>B</u> (selection of literature) <u>C</u> (appropriate to formal speech) <u>D</u> (contribute to discussion) <u>E</u> (participate in group) (all grades 3,5,8,11) <u>Career Education and Work</u> Standards: 13.2 Career Acquisition (Getting a Job): <u>A</u> (appropriate listening) (see all grades 3,5,8,11)	In what ways is *listening* in the workplace different? What is the purpose of listening? In what ways might I comprehend what I listen to? Do I *hear* what people *mean* when I listen? In what ways do I listen to supervisors and coworkers? In what ways do I let others know that I am listening?

Work Ready Competency Areas	Minimum Achievement Indicators (Performanced Based)	Suggested Documentation (Evidence from Client)	Suggested Tools & Techniques to Apply (Formal / Informal)	Secretary's Competencies for Achieving Necessary Skills (SCANS)	Equipped For the Future (EFF) – National Institute for Literacy (Matching Standards)	PA Dept of Education Academic Standards	Guiding Questions (for Instructor & Learner)
III. SPEAKING SKILLS SPEAKS APPROPRIATELY IN BOTH FORMAL AND INFORMAL SETTINGS SPEAKS USING EFFECTIVE COMMUNICATION SKILLS SPEAKS CLEARLY USING REAL WORDS (AVOIDS "UHS," "UMS," AND PROFANITY) MAKES EYE CONTACT DEMONSTRATES GENERAL CUSTOMER FRIENDLINESS	Participate in groups discussions Communicate effectively with others Present to an audience	Instructor's referral Letters of recommendations Instructor's evaluation report Successful interview obtains employment Evaluation from volunteer or employment experience(s)	Instructor's referral Role play Video of client Interview assessment Culminating activity (end of program, formatted presentation)	Foundation Skills: Basic Skills ■ *Speaking:* organizes ideas and communicates oral messages appropriately to listeners and situations; participates in conversation, discussion, and group presentations . . . speaks clearly and communicates a message; understands and responds to listener feedback; and asks questions when needed	Communication Skills: *Speaks so Others Can Understand:* Determine the purpose for communicating; organize and relay information to effectively serve the purpose, context, and listener	RWSL Standards: 1.6 Speaking and Listening: see especially <u>A</u> (listen to others) <u>C</u> (appropriate speech) (see all grades 3,5,8,11)	In what ways is communication important in a workplace? What is the purpose and context of the listener? What grammar, word choice, pace and gesture will work best in a work situation? Am I aware of how I communicate to others? In what ways do I demonstrate that I do communicate? Do I know how to learn communication skills?

Work Ready Competency Areas	Minimum Achievement Indicators (Performanced Based)	Suggested Documentation (Evidence from client)	Suggested Tools & Techniques to Apply (Formal / Informal)	Secretary's Competencies for Achieving Necessary Skills (SCANS)	Equipped for the Future (EFF) – National Institute for Literacy (Matching Standards)	PA Dept of Education Academic Standards	Guiding Questions (for Instructor & Learner)
IV. WRITING SKILLS PREPARES A QUALITY WRITING SAMPLE WITH CORRECT GRAMMAR, PUNCTUATION, ORGANIZATION OF THOUGHTS, ACCURACY AND COMPLETENESS	Write at grade level Develop and maintain a portfolio Develop measurable objectives & goals Complete written letters as instructed (self introduction, inquiry, opinion, thank you)	Writing samples Letters (Introduction, T/Y, & Follow up) Portfolio: important papers, best work, letter samples, resume, career planning Written objectives & goals	Standardized achievement tests Letter samples Portfolio requirements (e.g. research paper, journal) Objectives & goals	Foundation Skills: Basic Skills Writing:: Communicates thoughts, ideas, information, and messages in writing and creates documents such as letters, directions, manuals, reports, graphs, and flowcharts . . . attends to level of detail; and checks, edits, and revises for correct information, appropriate emphasis, form, grammar, spelling and punctuation	Communication Skills: *Convey Ideas in Writing*:: Determine the purpose for communicating; organize and present information to serve the purpose, context, and audience; pay attention to conventions of English language usage, including grammar, spelling, and sentence structure, to minimize barriers to reader's comprehension; seek and feedback and revise to enhance the effectiveness of the communication	RWSL Standards: 1.3 Reading, Analyzing and Interpreting Literature: **B** (literary elements) **C** (literary devices) (see grades 3,5,8,11) 1.4 Types of Writing: **B** (informational pieces) (see grades 3,5,8,11) 1.5 Quality of Writing: **B** (appropriate content) **C** (control and order) **E** (detail, style, word choice) (see grades 3,5,8,11)	What is the purpose for communicating in writing? How do I organize information to serve the purpose and context of the audience? What grammar, word choice, pace and gesture will work best?
CONDUCTS AND DOCUMENTS INQUIRY-BASED RESEARCH		Culminating projects (including text & photos)	Project-based learning attached to academic standards				How might I get feedback to increase the effectiveness of my own communication?
WRITES FOR ACADEMIC, PERSONAL, SOCIAL AND SCHOOL-TO-CAREER PURPOSES	Write personal T/Y letter using legible handwriting Demonstrate correct and proper use of email	Written critique of reading passages Keys2Work Writing	Key Train curriculum	Competencies: Information: *Organizes and Maintains Information*: Organizes, processes, and maintains written or computerized		Career Education and Work	Do I write text with meaning and understanding? Do I want others to find meaning in what I write?
PREPARES PROFESSIONAL BUSINESS WRITING DOCUMENTS (E.G. EMAIL, MEMOS) UNDERSTANDS APPROPRIATE USE OF EMAIL (WHEN			Write career "stories" Explain values on local issues in clear, concise writing				

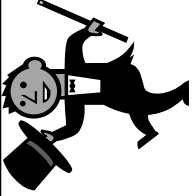|		records and other forms of information in a systematic fashion		Standards: 13.2 Career Acquisition (Getting a Job): C (documentation) (see all grades 3,5,8,11)	
TO USE EMAIL AND WHEN NOT TO)					
USES LEGIBLE HAND-WRITING					

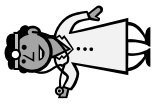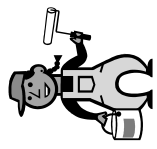| WORK READY COMPETENCY AREAS	MINIMUM ACHIEVEMENT INDICATORS (PERFORMANCED BASED)	SUGGESTED DOCUMENTATION (EVIDENCE FROM CLIENT)	SUGGESTED TOOLS & TECHNIQUES TO APPLY (FORMAL / INFORMAL)	SECRETARY'S COMPETENCIES FOR ACHIEVING NECESSARY SKILLS (SCANS)	EQUIPPED FOR THE FUTURE (EFF) – NATIONAL INSTITUTE FOR LITERACY (MATCHING STANDARDS)	PA DEPT OF EDUCATION ACADEMIC STANDARDS	GUIDING QUESTIONS (FOR INSTRUCTOR & LEARNER)
V. MATH SKILLS DEMONSTRATES ABILITY TO ADD, SUBTRACT, MULTIPLY AND DIVIDE WITHOUT A MACHINE SOLVES PROBLEMS IN WHICH THERE IS A NEED TO MEASURE ACCURATELY, AND USES VOLUME MEASUREMENTS DEMONSTRATES UNDERSTANDING OF MONEY CONCEPTS (E.G. CALCULATING CHANGE) UNDERSTANDS THE IMPORTANCE AND IMPLICATIONS OF ACCURACY	Math skills at grade level WIA Basic Skills Proficiency is 8th grade level (one education level increase is required each year of participation TABE score: 550 (estimate for HS grade level 8) CASAS score: 224 (estimate to Work Keys Level 4) CASAS score: 235 (estimate to Work Keys Level 5) Proficiency Level for high school exit is grade 11 (see PA Standards)	Math grade level report Instructor's referral Work supervisor's referral Measuring activity sheet for time or money Keys2Work Applied Math School records Employer referral (regarding accuracy, use of money) TABE report CASAS report	Standardized achievement test(s) Key Train: Applied Mathematics: begin at Level 3 Integrate mathematics into all disciplines Role play (Low Ropes tasks) Work samples, including carpet repair, painting, or wallpaper estimating Estimate all costs for buying a home, a car, travel costs for going to work, entertainment – use monthly totals Complete measuring activity (use of measuring devices) TABE (see <testpreview.com/tabe_practice> CASAS (see <casas.org>) STAR Mathematics assessment (pre & post test)	Foundation Skills: ▪ Basic Skills *Arithmetic:* Performs basic computations; uses basic numerical concepts such as whole numbers and percentages in practical situations; makes reasonable estimates of arithmetic results without a calculator; uses tables, graphs, diagrams, and charts *Mathematics:* Approaches practical problems by choosing appropriately from a variety of mathematical	Decision-Making Skills: *Use Math to Solve Problems and* *Communicate:* Understands, interprets, and work with pictures, numbers, and symbolic information	Mathematics Standards: 2.2 Computation and Estimation: **A** (computation concepts) **B** (solve problems) **C** (applied math) **D** (division) **E** (estimates) (see grades 3,5,8,11) 2.3 Measurement and Estimation: **A** (measuring) **E** (units of measure) (see grades 3,5,8) 2.11 Concepts of Calculus: **A** (values)	How Do I use math in my daily life? What is my learning style for knowing how to understand and demonstrate math concepts? In what ways is math used in the "world of work"? What is a *math level* as it relates to a job position? Do I know how to define data to be used in solving a problem? Why is accuracy

Successful Keys2Work exit from high school is Level 5 (minimal Keys2Work score for job entry level is Level 4 - with expectations for Level 5 and 6 - emphasis is on accuracy)	techniques; uses quantitative data to construct logical explanations for real world situations Competencies: ■ Resources: *Allocates Money:*: Uses or prepares budgets, makes forecasts, keeps records, and makes adjustments to meet objectives	**B** (graphs, rates) (see all grades 3,5,8,11) Career Education and Work Standards: 13.3 Career Retention and Advancement: **D** (money and budgeting) (see all grades 3,5,8,11)	important? Give an example where accuracy is important. As a measure of value, how do I use time; how do I use money? What steps might be used to solve problems reasonably?

Work Ready Competency Areas	Minimum Achievement Indicators (Performanced Based)	Suggested Documentation (Evidence from Client)	Suggested Tools & Techniques to Apply (Formal / Informal)	Secretary's Competencies for Achieving Necessary Skills (SCANS)	Equipped for the Future (EFF) – National Institute for Literacy (Matching Standards)	PA Dept of Education Academic Standards	Guiding Questions (For Instructor & Learner)
VI. JOB SEEKING SKILLS							
IDENTIFIES, SECURES, AND COMPLETES ALL DOCUMENTATION NEEDED TO GAIN EMPLOYMENT	Resume and cover letter(s) are clear, concise, and complete (include contact information, credentials and experiences)	Develops a "personal package" that includes proof of age, a Social Security Number, and Citizenship information (all may be part of a career portfolio)	Interest test Self-Directed Search (interest inventory) <Keys2Work.com > (see career plan of study for each career cluster)	Foundation Skills: ■ Personal Qualities: *Self-Esteem :* Believes in own self-worth and maintains a positive view of self; demonstrates knowledge of own skills and abilities; is aware of impact on others	Decision-Making Skills: *Plan:* Set and prioritize goals; develop an organized approach of activities and objectives; actively carry out a plan	Career Education and Work Standards: 13.2 Career Acquisition (Getting a Job): **A** (speaking and listening) **B** (resources) **C** (documenting) **D** (planning) **E** (workplace skills) (see all grades 3,5,8,11)	When needed, in what ways am I able to present myself, as a potential worker in my area of interest, in written form only?
DEVELOPS AND COMPLETES A RESUME AND COVER LETTER	Show all required employment documentation	Resume Cover letter(s)	<Pheaa.com > <self-esteem.org >	*Self-Management :* Assesses own knowledge, skills, and abilities accurately; sets well-defined and realistic personal goals; monitors progress toward goal attainment and motivates self through goal achievement	Interpersonal: *Advocate and Influence :* Define what one is trying to achieve; assess interests, resources, and the potential for success; gather facts and supporting information to build a case that takes into account the interests and attitudes of	RWSL Standards: 1.8 Research: **B** (locating information) (see all grades 3,5,8,11)	Do I have effective writing skills? Do I have access to and support by someone who has knowledge about effective writing skills for generating a resume and a cover letter?
IDENTIFIES AND EXPLORES CAREER AND VOCATIONAL AREAS OF INTERESTS AND IDENTIFIES CAREERS OR VOCATIONS THAT APPROPRIATELY ALIGN WITH PROFESSIONAL SKILL SETS	Name the required clearances and checks for a job position Presentations(s) stating course of action plan for a chosen career pathway	Completed worksheet that clearly shows alignment between career interests and attained skills Completed plan for attaining necessary or desired skills that will match interests	Role play Labor Market Orientation (LMO) for southwestern PA (or other region of interest) Portfolio, including important papers required for documentation by employers or education/training programs	Competencies: ■ Information: *Organizes and*			Do I know how to conduct a job search in order to be employed in an area of
CONDUCTS AND RECORDS INFORMATION FOR A JOB SEARCH	Complete a job interview Write a follow up letter	Follow up letter Follow up phone					

		call script	Purchase a vocational screening or a full evaluation from a certified vocational evaluation specialist (CVE)	*Maintains Information:* Organizes, processes, and maintains written or computerized records and other forms of information in a systematic fashion	others		work that is interesting to me?
DEMONSTRATES EFFECTIVE INTERVIEW SKILLS INCLUDING FOCUS AND USE OF APPROPRIATE BODY LANGUAGE AND DRESS	Complete a follow up phone calls(s) No more than one year gap in employment history	List of references (and when they would be used) Proof of past employment Business/School dress policy	Volunteer time with business Job Shadow with business	*Interprets and Communicates Information:* Selects and analyzes information and communicates the results to others using oral, written, graphic, pictorial, or multimedia methods	Lifelong Learning: *Take Responsibility for Learning :* Establish learning goals that are based on an understanding of one's own current and future learning needs *Reflect and Evaluate:* Take stock of where one is: assess what one knows already and the relevance of that knowledge *Learn Through Research:* Use multiple lines of inquiry to collect information		Do I know how to act and respond during an interview? Do I know how to obtain the paper documentation and credentials for a job position?
DEVELOPS AN INTERVIEW FOLLOW UP COMMUNICATION STRATEGY	Demonstrate alignment with company policy and procedures						

Work Ready Competency Areas	Minimum Achievement Indicators (Performanced Based)	Suggested Documentation (Evidence from Client)	Suggested Tools & Techniques to Apply (Formal / Informal)	Secretary's Competencies for Achieving Necessary Skills (SCANS)	Equipped For The Future (EFF) – National Institute for Literacy (Matching Standards)	PA Dept of Education Academic Standards	Guiding Questions (For Instructor & Learner)
VI. JOB SEEKING SKILLS (CONTINUED) SHARES APPROPRIATE REFERENCES COMPLETES APPROPRIATE CLEARANCES AND BACKGROUND CHECKS WHERE APPLICABLE MAINTAINS PROPER BUSINESS ETIQUETTE DEMONSTRATES EFFECTIVE COMMUNICATION DURING THE JOB SEEKING PROCESS (INCLUDING APPROPRIATE FOLLOW UP CORRESPONDENCES AND INFORMATION)	Approved PA certifications (as of August 2006): ▪ High School Diploma ▪ General Educational Development (GED) ▪ Customer Service Certification (see <www. NRF.com>)[4] ▪ Serve Safe (see <nraef.org/servsafe>)[5]	Placement in postsecondary education, advanced training, military service, employment, or qualified apprenticeship	For college planning, see <educationplanner.org> <mapping-your-future.org> For career information, see <paworkforce.state.pa.us/youth> For career planning, see <futureconnect.org> (requires password)				

DEMONSTRATES JOB RETENTION IF HELD PREVIOUS EMPLOYMENT					
UNDERSTANDS THAT NON WORK ACTIVITIES (I.E. ACTIVITIES DURING TIME OFF) CAN IMPACT PROFESSIONAL GOALS AND ABILITY TO OBTAIN AND RETAIN EMPLOYMENT					

[4] The National Professional Certification in Customer Service® is based on the Customer Service Skill Standards that identify the knowledge, skills, and abilities that employers have agreed are necessary for success in retail and related industries.
[5] The National Restaurant Educational Fund Serve Safe Program provides the restaurant and food service industry with up-to-date, comprehensive food safety training and certification

WORK READY COMPETENCY AREAS	MINIMUM ACHIEVEMENT INDICATORS (PERFORMANCED BASED)	SUGGESTED DOCUMENTATION (EVIDENCE FROM CLIENT)	SUGGESTED TOOLS & TECHNIQUES TO APPLY (FORMAL / INFORMAL)	SECRETARY'S COMPETENCIES FOR ACHIEVING NECESSARY SKILLS (SCANS)	EQUIPPED FOR THE FUTURE (EFF) – NATIONAL INSTITUTE FOR LITERACY (MATCHING STANDARDS)	PA DEPT OF EDUCATION ACADEMIC STANDARDS	GUIDING QUESTIONS (FOR INSTRUCTOR & LEARNER)
VII. JOB RETENTION SKILLS RESPONDS APPROPRIATELY TO SUPERVISION AND DIRECTION DEMONSTRATES DEPENDABILITY AND RELIABILITY BY COMING TO WORK ON TIME AND REMAINING AT WORK FOR ENTIRE SHIFT RESPECTS DIVERSITY (E.G. RACE, GENDER, SEXUAL ORIENTATION, CULTURAL HERITAGE/TRADITION) UNDERSTANDS THE IMPORTANCE OF TEAMWORK UNDERSTANDS THE DIFFERNECE BETWEEN VERBAL AND NONVERBAL COMMUNICATION	Retention meets current WIA definition of time Retention meets – or exceeds – definition of success for a specific business Positive feedback from business person Promotion within 6 months, one year or at regular intervals Pay raise within 3-6 months, one year or at regular intervals Hours increased within 3 months, movement from part-time to full time employment	Six months retention from previous unsubsidized employment Attainment of recognized credential related to achievement of educational skills, including attainment of a secondary school diploma or its recognized equivalent, or occupational skills, by participants who enter unsubsidized employment or who enter postsecondary education, advanced training, military service, or unsubsidized employment	Refer to skill standards for specific Career Clusters Role play and discuss verbal and nonverbal communication Discuss diversity issues Discuss/demonstrate teamwork Discuss workplace etiquette Discuss "stick-to-it-iveness"	Foundation Skills: ▪ Thinking Skills: *Knowing How to Learn* : Recognizes and can use learning techniques to apply and adapt new knowledge and skills in both familiar and changing situations … ▪ Personal Qualities: *Social* : Demonstrates understanding, friendliness, adaptability, empathy and politeness in new and on-going settings; asserts self in familiar and unfamiliar social situations;	Interpersonal: *Cooperates with Other*: Interact with others in ways that are friendly, courteous, and tactful and that demonstrate respect for others' idea, opinions, and contributions *Resolve Conflicts & Negotiate*: Acknowledge that there is a conflict; identify areas of agreement and disagreement; generate options for resolving conflict that have a "win/win" potential; engage parties in trying to reach agreement on a course of action	Career Education and Work Standards: 13.3 Career Retention and Advancement: see especially **A** (attitude), **B** (cooperation) **C** (conflict resolution) and **E** (time), **F** (life changes), **G** (lifelong learning). (see all grades 3,5,8,11)	Do I develop healthy working relationships? Do I know how to develop a working relationship with a supervisor? Do I know how to develop a positive working relationship with other workers? Do I have the encouragement and the support of others while I am pursuing employment in a career area that is interesting to me?

		relates well to others

Competencies:
▪ Resources:
Allocates Time : Selects goal-relevant activities, ranks them, allocates time, and prepares and follows schedules | that can satisfy the needs and interests of all; evaluate results of efforts and revise approach as necessary

Communication:
Listen Actively: clarify purpose of listening and use listening strategies appropriate to that purpose
Observe Critically: Attend to visual sources of information, including television and other media; determine the purpose for observation and use strategies appropriate to the purpose; . . . analyze the accuracy, bias, and usefulness of the information |
| | Recognition for success is received verbally and in writing

Evaluations(s) are positive & encourage growth and learning | Attainment of basic skills and work readiness or occupational skills

Business/school attendance policy

High School transcript

Attendance at community or group meetings (e.g. church choir, Boy Scouts, Girl Scouts, sports team, music group, learning program) | |

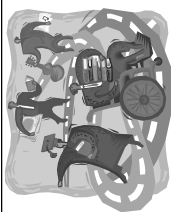| Work Ready Competency Areas	Minimum Achievement Indicators (Performanced Based)	Suggested Documentation (Evidence from Client)	Suggested Tools & Techniques to Apply (Formal / Informal)	Secretary's Competencies for Achieving Necessary Skills (SCANS)	Equipped For the Future (EFF) – National Institute for Literacy (Matching Standards)	PA Dept of Education Academic Standards	Guiding Questions (for Instructor & Learner)
VII. JOB RETENTION SKILLS (CONTINUED) GIVES AND RECEIVES CONSTRUCTIVE FEEDBACK PARTICIPATES FULLY IN A TASK FROM INITIATION TO COMPLETION UNDERSTANDS WORKPLACE ETIQUETTE (INCLUDIG TURNING OFF CELL PHONES AT WORK AND DEALING WITHPEROSNAL ISSUES DURING NON-WORK HOURS) KNOWS WHEN AND HOW TO ASK FOR CLARIFICATON ON TASKS AND WHEN TO ASK FOR HELP				Competencies: ■ Interpersonal: *Participates as a Member of a Team* : Works cooperatively with others and contributes to group ideas, suggestions, and effort *Works with Cultural Diversity* : Works well with men and women and with a variety of ethnic, social, or educational backgrounds; demonstrating competence in working with cultural diversity involves understanding one's own culture and those of others and how they differ; respecting the rights of others while helping them make cultural adjustments ■ Systems:			Do I know how to approach my supervisor with questions? How have I demonstrated my ability to work with a supervisor, teacher, or a boss in my recent past?

Understands Systems:: Knows how social, organizational, and technological systems work and operates effectively within them; . . . knowing the right people to ask for information and where to get resources; and functioning within the formal and informal codes of the social/organizational system	

Work Ready Competency Areas	Minimum Achievement Indicators (performanced based)	Suggested Documentation (evidence from client)	Suggested Tools & Techniques to Apply (formal / informal)	Secretary's Competencies for Achieving Necessary Skills (SCANS)	Equipped For The Future (EFF) – National Institute for Literacy (matching standards)	PA Dept of Education Academic Standards	Guiding Questions (for instructor & learner)
VIII. LIFE SKILLS							
MANAGES PERSONAL FINANCES EFFECTIVELY	Keep a budget	Prepare a "Two-minute drill" (includes interest, skills, direction, three things to remember)	Consider Progressions of Learning and Doing[6] (below)	Foundation Skills: ■ Thinking Skills: *Knowing How to Learn :*	Lifelong Learning: *Take Responsibility for* Learning:	Career Education and Work Standards: Entrepreneurship 13.4:	What is my *learning style?*
	Explain a weekly, and monthly calendar of obligations and appointments (including time, place, and requisites)	Values clarification	Read a bus schedule	Recognizes and can use learning techniques to apply and adapt	Establish learning goals that are based on an understanding	**A** (entrepreneurship), **B** (characteristics), **C** (planning) (see all grades 3,5,8,11)	What are the differences between a personal and a professional life? What things are the same?
PRACTICES EFFECTIVE TIME MANAGEMENT			Show directions on a map	new knowledge and skills in both familiar and	of one's own current and		
NAVIGATES TRANSPORTATION SYSTEMS	Program participant explains how a means of transportation is used legally, safely, and ethically	Situational assessment(s) – can be on work sheet(s) or in discussion(s)	Find directions on <mapquest.com>	changing situations and is aware of learning	future learning needs; identify own strengths and weaknesses		Do I know where to turn for help? Who can I rely on?
MAINTAINS BALANCE BETWEEN PERSONAL AND PROFESSIONAL LIFE			Refer to skill standards for specific Career Clusters	tools such as personal learning styles (visual,	as a learner and seek out opportunities		
DEMONSTRATES ABILITY TO SET AND ACHIEVE GOALS			Discuss situational ethics and what one would do within each scenario: at	aural, etc.) formal learning strategies	for learning that help build self-		Do I understand the purpose, influence and

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[6] <u>Progressions of Learning and Doing</u> (move from left to right in developing simple to complex applications):

-Learn > Practice > Use in real situation

-Single skill > more skills > use multiple skills to perform tasks

    -Close supervision > less supervision > more independence

    -Simple tasks > more complex tasks & simple product > highly complex tasks & final product

-Beginner skill level > higher skill level > high performance skill level

    -Learner standards > higher standards > real-world standards-masterpiece showing proficiency

-Assess knowledge > assess practice > assess final performance

    -Apprentice > Journeyman > Master

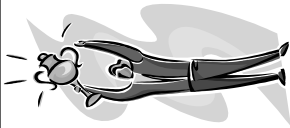-Do > Reflect > Revise and Improve

MANAGES EMOTIONS APPROPRIATELY LEARNS HOW TO ADAPT TO UNFORESEEN CIRCUMSTANCES	work, at home, at social centers within the community	(note taking or clustering items that share some characteristics), and informal learning strategies (awareness of assumptions that lead to false conclusions)	concept as a learner; . . . test out new learning in real-life applications <u>Decision-Making:</u> *Solve Problems and Make Decisions:* Anticipate or identify problems; Use information from diverse sources to arrive at a clearer understanding of the problem and its root causes; . . . evaluate strengths and weaknesses of alternatives, including potential risks and benefits and short- and long-term consequences

daily use of money? In what ways do I manage money that *supports* my life style? In what ways do I manage money that *promotes* my lifestyle?

Work Ready Competency Areas	Minimum Achievement Indicators (Performance Based)	Suggested Documentation (Evidence from Client)	Suggested Tools & Techniques to Apply (Formal / Informal)	Secretary's Competencies for Achieving Necessary Skills (SCANS)	Equipped For the Future (EFF) – National Institute for Literacy (Matching Standards)	PA Dept of Education Academic Standards	Guiding Questions (For Instructor & Learner)
IX. TECHNOLOGY SKILLS UNDERSTANDS BASIC COMPUTER SKILLS (E.G. MICROSOFT OFFICE Tools) DEMONSTRATES COMFORT WITH LEARNING AND APPLYING VARIOUS TECHNOLOGY PROGRAMS AND SOFTWARE	*Demonstrate the following:* Navigate and file management: Use scroll bars, a mouse, and dialog boxes to work within the computer's operating system Internet and email: Navigate the Internet and find information; Send and receive electronic mail (e-mail) Word Processing: Type text and insert a picture; format, edit and print text; save and retrieve documents Spreadsheets: Insert, delete and manipulate cells, rows and columns; create and save	Complete a document for each: • Word • Excel • Power Point • Email Find information via the WEB, as requested by supervisor ICDL certification Other recognized computer proficiency certification Keys2Work Technology	ICDL Keys Train	Competencies: <u>Information:</u> *Uses Computers to Process Information:* employs computers to acquire, organize, analyze, and communicate information ■ Technology: *Applies Technology to Task:* understands the overall intent and the proper procedures for setting up and operating machines, including computers and their programming systems	<u>Lifelong Learning:</u> *Use Information and Communications Technology :* Use computers and other electronic tools to acquire, process, and manage information; use electronic tools to learn and practice skills; use the Internet to explore topics, gather information, and communicate	<u>RWSL Standards:</u> 1.6 Speaking and Listening Standards: **F** (media for learning purposes) (see all grades 3,5,8,11) 1.8 Research: **B** (Locate information) (see all grades 3,5,8,11)	Am I computer literate? In what ways do I use computer technology in my life (e.g. scanners, PC, cell phone, money access machine)? In what ways do I make regular use of a computer? Am I able to make a presentation using media? In what ways might I demonstrate my ability to use a computer, as required by a job position?

	worksheets, charts, and graphs
	Presentations: Create, manipulate, edit and show virtual slide presentations
	Databases: Input data; retrieve detailed records; create and edit simple databases

WORK READY COMPETENCY AREAS	MINIMUM ACHIEVEMENT INDICATORS (PERFORMANCED BASED)	SUGGESTED DOCUMENTATION (EVIDENCE FROM CLIENT)	SUGGESTED TOOLS & TECHNIQUES TO APPLY (FORMAL / INFORMAL)	SECRETARY'S COMPETENCIES FOR ACHIEVING NECESSARY SKILLS (SCANS)	EQUIPPED FOR THE FUTURE (EFF) – NATIONAL INSTITUTE FOR LITERACY (MATCHING STANDARDS)	PA DEPT OF EDUCATION ACADEMIC STANDARDS	GUIDING QUESTIONS (FOR INSTRUCTOR & LEARNER)
X. PERSONAL & SOCIAL DEVELOPMENT				Foundation Skills:	Interpersonal: *Guide Others:* Assess the needs of others and one's own ability to assist; . . . seek feedback on the usefulness and results of the assistance	Career Education and Work Standards: 13.1 Career Awareness and Preparation: see especially <u>A</u> (interests, abilities, aptitudes), <u>B</u> (self interests), <u>C</u> (roles), <u>D</u> (job opportunities), <u>E</u> (choice), <u>F</u> (exploration), <u>G</u> (planning). (see all grades 3,5,8,11)	What are the differences between my personal and my professional life?
ESTABLISHES AND MAINTAINS PERSONAL AND PROFESSIONAL NETWORKS	Referrals by others regarding work ethic and characteristics	Letters of reference	Develop a Board of Directors for "YOU, Inc." (board criteria: each person (3to 5) likes you, likes their work, can relate career information to you)	▪ Personal Qualities: *Integrity/Honesty:* Can be trusted; recognizes when faced with making a decision or exhibiting behavior that may break with commonly-held personal or societal values; understands the impact of violating these beliefs and codes on an organization, self, and others; and chooses an ethical course of action			In what ways do I solve conflicts between myself and others at home?
	Explain personal and professional goals clearly	Develops a written plan to accomplish a goal					
		High School transcript					In what ways do I solve conflicts between myself and others at work / school?
PRACTICES EFFECTIVE CONFLICT RESOLUTION STRATEGIES	Client is able to describe resources and persons in community that may be helpful towards achieving personal goals	GED	Portfolio: include career planning, lifelong learning goals, achievements		Lifelong Learning: *Take Responsibility for Learning:* Establish learning goals that are based on an understanding of one's own current and future learning needs; identify own strengths and weaknesses as a learner and seek out opportunities for		
		Other certificate(s) of completion					Do I have role models who are part of my life?
DEMONSTRATES THE ABILITY TO IDENTIFY AND ASSESS COMMUNITY INFORMATION		Positive work evaluations		*Self-Management:* Assesses own knowledge, skills, and abilities accurately; sets well-defined and realistic personal goals; monitors progress toward goal attainment and			Do I – or can I – act as a role model for others?
	Completion of high school	Attendance record					
DEMONSTRATES SELF-DISCIPLINE, INTEGRITY, HONESTY, COMPASSION, INDEPENDENT THINKING AND RESPONSIBILITY WHILE ROLE MODELING APPROPRIATE	Attains GED	Recognition for leadership qualities					In what ways do I demonstrate my potential leadership skills?
	Excellent attendance record						
	Demonstrate a positive work or school history						
	Demonstrate						

BUSINESS BEHAVIOR	leadership qualities	motivates self through goal achievement	learning that help build self-concept as a learner; . . . test out new learning in real-life applications		Does my attendance show that I can be counted on to participate regularly, to be on time, and to be ready to do work in a timely manner?
UNDERSTANDS AND ADHERES TO GENERAL EMPLOYER POLICIES			*Reflect and Evaluate:* Take stock of where one is: assess what one knows already and the relevance of that knowledge		
ESTABLISHES A POSITIVE WORK AND SCHOOL HISTORY		Competencies:	*Learn through Research:* Pose a question to be answered or make a prediction about objects or events; use multiple lines of inquiry to collect information; organize, evaluate, analyze, and interpret findings		In what ways might I define a successful person?
UNDERSTANDS LEADERSHIP QUALITIES, VALUES, AND BEHAVIORS		■ Interpersonal: *Exercises Leadership:* Communicates thoughts, feelings, and ideas to justify a position, encourages, persuades, convinces, or otherwise motivates an individual or groups, including responsibility challenging existing procedures, policies, or authority			
DEVELOPS CRITICAL THINKING AND PROBLEM SOLVIG SKILLS					

Three Rivers Workforce Investment Board:
Menu of Engagement[14]

Appetizers
Employer Presentations to Students

Take your show on the road by presenting at schools, career fairs and youth-serving agencies about your career, your organization, and the industry your organization represents.

How we will help:
We will facilitate the planning with local schools and provide you with the preparatory material to help it all go smoothly.

Light Fare
Host a Job Shadow

What do you do at work? Host a high school student for one day at your organization and share what you do, what your company is about, and a better understanding of how your industry is evolving.

How we will help:
We will provide a job-shadowing guide that outlines the goals and preparation necessary for a positive experience for you and your shadow. We will act as a liaison between the school staff and students to ensure the logistics of the day are organized.

Entrée One
Become an eMentor

Assist a young person exploring career interests, academic choices, and goal setting through weekly email conversations. Share the valuable experiences and advice you have gathered on your career journey with a young person just starting out.

How we will help?
We will connect you with a motivated young person whose career interests relate to your field. We will also provide you with training and resources to help you guide students through career exploration.

Entrée Two
Host an Educator in Your Workplace

Host an educator in your workplace for three to five days while they follow a step-by-step process to incorporate real-world examples into their lesson plans.

How we will help?
We will supply you with supplementary materials to facilitate a positive, results-oriented experience for all parties.

Entrée Three
The Combination Platter

Give a presentation, become an eMentor, host a job-shadow and create an internship! This represents the ideal of career education — when a student can go from learning abstractly to doing concretely, under the guidance of a caring adult, while gaining valuable visibility for your company.

How we will help?
We will provide the logistical support with all these facets to ensure that each step of the process is supported with the materials and infrastructure necessary for success.

Dessert
Recognition and Celebration

Join us in celebrating your participation and the new opportunities experienced by youth. In the spring, we will gather to honor the accomplishments of young people, acknowledge the time and effort of partner companies and look forward to the next steps. Dates, times, and locations to be determined.

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[14] "Menu of Engagement: How to get your company involved in career education," Three Rivers Workforce Investment Team, 2006.

Appendix III

Program Options
- Career Academies
- Tech Prep

Exemplary Career Academies[15]

College Tech Prep Health Careers Academy Genesee Community College and Veterans Administration of WNY Health Care System, Batavia, New York
The College Tech Prep Health Careers Academy, formed from a partnership of Genesee Community College and the Veterans Administration of WNY Health Care System, is a course of study designed to provide secondary students with a broad knowledge of the health care industry. Students explore multidisciplinary health care professions and current biotechnology through on-site observations at local hospitals and other health care facilities. The overall objective of the academy is to provide participants with a rigorous academic program that incorporates hands-on applications.

Along with Genesee Community College and the Veterans Administration of WNY Health Care System, 19 secondary institutions, the Business Education Alliances/Council from Genesee, Livingston, and Wyoming Counties, the Livingston County Health Care Consortium, Rural Area Health Education Center (RAHEC), four hospitals, and numerous individual health care providers partnered to form the academy in 2000–2001.

Specific student objectives are:
1. Develop career plans based on knowledge gained through exploratory learning at worksites with health care professionals.
2. Plan and develop an individualized health career and educational sequence. Explore colleges offering these career programs.
3. Apply previously learned academic knowledge and skills to professional tasks and problems.
4. Demonstrate appropriate interpersonal skills and work ethic.
5. Acquire a base knowledge necessary for all health care careers.
6. Demonstrate leadership skills, motivation, independent learning, and problem solving techniques.
7. Give a sense of closure to high school education and directed transition to the next level of professional development.

Health Career Academy students spend half of each day at their home schools and half at the academy. During the fall semester, they spend two days a week at college, two days in the hospital classroom, and one day job shadowing. The spring semester leads to one day at college, two days in the hospital classroom, and long-term internships two days per week.

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[15] "2004 Exemplary Worksite Learning Award Winners," National Tech Prep Network, 2004.

Secondary and postsecondary instructors meet regularly to monitor and adjust curriculum, participate in staff development and conferences, and collaborate with hospital administrators, department heads, and other key personnel.

Heart of Ohio Medical Tech Prep Program Lancaster High School and Fairfield Medical Center, Lancaster, Ohio
The Heart of Ohio Medical Tech Prep program, an initiative of Lancaster High School and Fairfield Medical Center, was implemented primarily to train a professional workforce in the medical field.

In the spring of 1999 an advisory committee of hospital personnel, the high school guidance counselor, a science teacher, a local school board member, and postsecondary educators was formed to develop the Heart of Ohio initiative. The partnership that resulted represents a community-based collaboration between the Medical Center and the school system to foster interest in the medical profession.

Fairfield Medical Center welcomed the program to its facilities by providing surplus equipment and supplies and allowing students to attend in-service training programs, eat lunch in the hospital cafeteria, and join personnel for seasonal parties.

The hospital also provided mentoring sites where, for the first quarter, senior students rotate through nine departments and learn first-hand from experts. Students are given tasks to complete and spend time with hospital staff. A medical Tech Prep instructor visits and evaluates students with the assistance of the department supervisor. During the last quarter of their senior year, students participate in a more intense mentoring program, spending two weeks in the lab, two weeks in respiratory therapy, and five weeks in their primary areas of interest.

Over the last four years the partnership with Fairfield Medical Center has allowed students to observe open-heart surgery, witness the birth of a baby, care for a neonate, participate in a "code" in the ER, and be a part of many other medical procedures. The goal is for students to graduate from their two- or four-year colleges and enter the medical field. Of the first graduates, 14 are enrolled in postsecondary programs that are related to the medical field, one went on to work on a missionary trip, one enlisted in the Army, and one did not seek further education but works as a nursing assistant. All current senior students passed the State Tested Nursing Aide exam.

Viking Branch Center of Finance Program St. Petersburg College and Pinellas County Teachers Credit Union, St. Petersburg, Florida
The Viking Branch Center of Finance developed from a partnership between St. Petersburg College and Pinellas County Teachers Credit Union. It introduces students to broad career opportunities in the financial services industry and equips students to make sound choices for the future through an integration of academics, technology, and a real credit union on campus.

The objective is to provide students with a basic understanding of the role of credit unions in the financial industry; provide the Pinellas County Teachers Credit Union (PCTCU) Viking Branch staff with basic information, tools, and direction upon which to build and acquire additional skills; and facilitate effective branch operations.

Students handle day-to-day operations, including dealing with members, opening savings and checking accounts, maintaining cash drawers, balancing the safe, auditing drawers, and developing marketing/promotional items and brochures. Classroom training consists of a combination of interactive instruction regarding relevant procedures and hands-on exercises in a training room environment. Paid internships, mentors, job shadowing, and worksite field trips are key factors in this process. Internships occur during the summer months of a student's senior year; students must complete 240 hours to receive credit toward high school graduation.

An articulation agreement with Johnson & Wales University and St. Petersburg College has been developed. Business partners include Catalina Marketing; Franklin Templeton; Heritage Asset Management; Identi-a-kid; Lighthouse Credit Foundation; Merrill Lynch; Morgan Stanley; Northwestern Insurance; PSCU Financial Services; Pinellas County Teachers Credit Union; Primerica; Raymond James Bank; Raymond James Financial; St. Petersburg Times; Sembler Company; Smith Barney; Wells, Houser, Schatzel & Thomas, PA; and Xerox Federal Credit Union. These partners, who make up the advisory board for the Center of Finance, meet six times a year. Their mission is to help teens acquire a greater understanding of and ability to manage their personal finances while providing an opportunity, through interaction, to gain working knowledge and experience in various aspects of business.

A curriculum committee meets four times a year to review state guidelines and industry trends, visit the program to assess the status of implementation, provide opportunities for teachers and students to become familiar with the industry (site visits, seminars, speakers, industry training programs, professional development, conferences), provide on-the-job curriculum-related experiences, and collect and make available classroom sets of materials relevant to courses.

Program Criteria for Tech Prep[16]

Articulation: Articulation models (e.g., 2 + 2, 2 + 4, 2 + 2 + 2) that include dual credit, curriculum alignment, integration, and non-duplicative sequencing of coursework from secondary to postsecondary education, and provide students with smooth transitions and seamless programs of study from secondary to postsecondary education as defined by Perkins III. Since articulation does not always include a dual credit system, dual credit is not a required component.

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[16] Walde, Constance A., "Exemplary tech prep programs combining college connections and work-based learning opportunities," Report for the National School-to-Work Office and Lockheed Martin Energy Systems, Inc, 2000, http://www.cord.orguploadedfiles/ExemplaryTechPrepSitesReport.pdf.

Accountability: Tech Prep programs that have accountability criteria (benchmarks/objectives, outcomes, and definitions) developed, sustained, and evaluated by a functioning governance committee or council

Curriculum integration: Curriculum integration driven by local, state, and national academic and technical standards

Career guidance: Educators provide students with career exploration and guidance that connects students to potential postsecondary career choices and employment opportunities.

Professional/staff development: Secondary and postsecondary faculty, administrator, and employer training in instructional delivery to ensure that students meet high academic, technical, and employability standards. Training may also include faculty internships, employer internships at participating schools, faculty training in the use and application of technology, and training in the use and development of portfolio based, project-based, and performance-based assessment.

Transitional activities: Secondary and postsecondary faculty members and employers provide transitional or bridging activities to help students make smooth transitions from secondary to postsecondary education and from school to work. Transitional activities may include company tours; participation in open houses or career days at high schools or community colleges; presentations by employers describing what their companies can offer students; and recruitment activities by community colleges, baccalaureate colleges, and/or universities.

Partnerships with business: Students are provided with opportunities to be placed in a variety of paid or unpaid work-based learning experiences that match their programs of study. Examples of school-approved work-based learning opportunities are cooperative education work experiences, paid and unpaid internships, service learning opportunities, job shadowing opportunities, mentoring or job coaching, and school-based enterprises. This research tried to identify Tech Prep programs that offer sustained work based learning opportunities to students to encourage the development of competency-based skills.

Equal opportunities for all students: Tech Prep programs of study with workplace learning opportunities that are responsive to the needs of all students, including special populations

Evaluation: Tech Prep programs with workplace opportunities are evaluated on an ongoing basis (at least once a year). Evaluation may include student self-evaluation and evaluation by teachers and employers. Assessment of student performance may include performance-based, project-based, and portfolio-based assessment. This evaluation is designed to measure and summarize student outcomes and determine the extent to which completion rates and increases in enrollment at community or vocational technical colleges or four-year universities or colleges result from Tech Prep articulated programs of study with workplace opportunities.

Appendix IV

Estimated Perkins Budget Allocations* for St. Louis, Missouri Schools per student

* Perkins funds determined by free and reduced lunch count

- $1.4 million Perkins Funds allotted to State of Missouri
- Minus $800,000 spent on tuition on students going out of the district for technical education
- Therefore $600,000 left for St. Louis Public School Districts
    - o $300,000 spent on salaries and fringe*
    - o $150,000 spent on Board Budget**
    - o $200,000 spent on equipment costs***
- Roughly $300,000 remaining divided by roughly 1500 11-12 grade CTE students
- **$250 TOTAL Estimated cost per student**

*Salaries for 5 CTE school coordinators, 1 career education program manager, I administrative assistant; Fringe is 34%
**Board budget covers 1 executive director, 1 program manager, 2 secretaries, 1 financial assistant, I curriculum specialist; teacher salaries come out of each school budget
***About $100,000 of the equipment cost is matched 1/3 to 2/3 by the state

Costs for CTE Programs: Houston Independent School District Career and Technology Department 2006-2007
1. Cost of Equipment for: Animal Science
2. Cost of Equipment for: Business Computer Information Systems I & II
3. Cost of Equipment for: Business Image Management & Multimedia
4. Cost of Equipment for: Cosmetology Lab and Classroom
5. Cost of Equipment for: Health Science Technology
6. Cost of Equipment for: Intro to Horticulture
7. Cost of Equipment for: Introduction to World Agriculture
8. Cost of Equipment for: Marketing (All)

1. COST OF EQUIPMENT FOR: Animal Science

NAME OF EQUIPMENT	COST	VENDOR
Barn – 42 x 80	$25,000	Al Herring
Concrete	$20,000	Al Herring
Electricity	$25,000	McBride Electric
Water	$10,000	City of Houston
20' Gooseneck trailer	$10,000	Gooseneck
Scales	$1,999	W-W Paul Scales
Record Books – 35 @ $6.00 (based on class size of 35	$210	IMS Materials – College Station, TX
IMS Materials – 2 complete sets ($72.50/each)	$145.00	IMS Materials – College Station, TX
IMS Materials – supplemental materials – 2 sets	$16.00	IMS Materials – College Station, TX
IMS Materials – Teachers Edition	$90.00	IMS Materials – College Station, TX
PC – 1	$1,148.00	ACS
Printer - DeskJet	$200.00	U.S. Tech
TOTAL	**$93,808.00**	
Various other supplies (tagging gun, shots, etc..) to be purchased by campus		

2. COST OF EQUIPMENT FOR: <u>Business Computer Information Systems I & II</u>

EQUIPMENT (Qty.)	COST	VENDOR
Computer (26)	1,148.00 / 29,848.00	ACS
Laptop (1)	1,154.00	ACS
Color Laser Printer Networked (1)	1,099.00	U.S. Tech
Data Projector (1)	749.00	U.S. Tech
Screen (1)	100.00	AVES
Flash Drives (150)	20.00 / 3,000.00	U.S. Tech
Headset (26)	15.00 / 390.00	U.S. Tech
Computer Table 36" (26)	103.00 / 2,678.00	Indeco Sales
Chairs (26)	48.50 / 1,261.00	Indeco Sales
Digital Camera (1)	155.00	U.S. Tech
TV/VCR/DVD	1,200.00	Troxell
Textbooks (26)	0.00	State Adopted
Minimum Cost BCIS Lab	**$41,634.00**	
Network Drops (30)	200.00 / 6,000.00	Technology
Electrical Wiring	5,000.00	FMO
Dual Credit Textbooks (26)	$1,400.00	Thomson
Total Cost BCIS Lab	**$54,034.00**	

3. COST OF EQUIPMENT FOR: Business Image Management & Multimedia

EQUIPMENT (Qty.)	COST	VENDOR
Computer (26)	1,148.00 / 29,848.00	ACS
Laptop (1)	1,154.00	ACS
Color Laser Printer Networked (1)	1,099.00	U.S. Tech
Data Projector (1)	749.00	U.S. Tech
Screen (1)	100.00	AVES
Flash Drives (150)	20.00 / 3,000.00	U.S. Tech
Headset (26)	15.00 / 390.00	U.S. Tech
Computer Table 36" (26)	103.00 / 2,678.00	Indeco Sales
Chairs (26)	48.50 / 1,261.00	Indeco Sales
Digital Camera (1)	155.00	U.S. Tech
TV/VCR/DVD	1,200.00	Troxell
Textbooks (26)	0.00	State Adopted
Minimum Cost BIMM Lab	**$41,634.00**	
Network Drops (30)	200.00 / 6,000.00	Technology
Electrical Wiring	5,000.00	FMO
Multimedia Software	$3,000.00	Region IV
Multimedia Textbooks (Dual Credit)	$3,000.00	Thomson
Total Cost BIMM Lab	**$58,634.00**	

4. COST OF EQUIPMENT FOR: Cosmetology lab and classroom

NAME OF EQUIPMENT	COST	VENDOR
6 MPC #3000W Shampoo bowls	2,152.00	Salon Equipment Co. (SEC)
6 metal hair traps	920.00	SEC
6 Shampoo chairs with leg rest	1,750	SEC
6 Global B431 Dryer chair w/Highland Dryer	1,964.00	SEC
16 Global Alexandra styling chairs on a B425 chrome base	5,040.00	SEC
8 Double stations with Mirror	8,240.00	SEC
4 Dina Meri 310P portable Nail table with lamp	399.00	SEC
4 Dina Meri 920 Manicure Stool	392.00	SEC
Shipping	693.00	SEC
Stainless steel Double Sink(with hot&cold water faucet)	350.00	Home Depot(HD)
Hot Water Heater/40 gal. electric	300.00	HD
Washer and Dryer(elec.)	800.00	Western Appliance
25 Lockers $300 ea.)	7,500.00	BID
1 day –digital computer time clock	1800.00	Houston Equipment Co.
Computer and laser color printer	3,000.00	US Tech
Autoclave-All American Sterilizer	900.00	Wisconsin Aluminum Foundry
Storage cabinet	191.76	Office Depot
Textbooks	2000.00	
Minimum Cost for Cosmetology Lab	**$38,391.76**	
Network Drops	44.00	Technology
Computer table	150.55	JR inc.
Computer chair	48.50	Indeco Sales
25 Student desk combo chair 48.50ea	1,212.50	Indeco Sales
Plumbing work	@ 15,000.00	FMO
Electrical + exhaust fan	@15,000.00	FMO
Construction to include window openings for teacher's office with visibility, locker room, changing room	@20,000.00	FMO
SUB TOTAL	51,455.00	
Standard Cost of Cosmetology Lab and Classroom	**$89,846.76**	

5. COST OF EQUIPMENT FOR: HEALTH SCIENCE TECHNOLOGY

NAME OF EQUIPMENT	COST	VENDOR
Deluxe Skeleton	$1,500.00	Anatomical Chart Company
Anatomical Chart of the Muscular System	16.95	Anatomical Chart Company
Anatomical Chart of the Skeletal System	16.95	Anatomical Chart Company
Anatomical Chart of the Nervous System	16.95	Anatomical Chart Company
Anatomical Chart of the Digestive System	16.95	Anatomical Chart Company
Anatomical Chart of the Vascular System	16.95	Anatomical Chart Company
Anatomical Chart of the Respiratory System	16.95	Anatomical Chart Company
Heart Conditions Model	139.95	Anatomical Chart Company
HILLROM-RF-850 Bed (Need 3 @ $2,250 each)	6,750.00	Hillrom
Mattress BCEL3680/84 (Need 3 @ $245 each)	735.00	Blue Chip Medical
DETECTO-IB400 Scale (*Nice, but not a necessity)	4,548.00	Detecto
(Need 3 @ $58.73 each) Diagnostix 700 Series Pocket Aneroid Sphygmomanometer	176.19	ADC
(Need 20 @ $5.98 each) PROSCOPES ™ 660/670 Series Stethoscopes [660]	119.60	ADC
(*Nice, but not a necessity) Blood Drawing Chair w/Flip-Arm and Drawer	457.00	Clinton Industries
(*Nice, but not a necessity) XC-2000 Centrifuge w/Timer & Speed Control	195.00	C & A Scientific Company
MRP-3000T Trinocular Microscope	425.00	C & A Scientific Company
Lighted Tissue Floating Bath (*Nice, but not a necessity)	275.00	C & A Scientific Company
Stryker 946 Stretcher (*Nice, but not a necessity)	1,250.00	Stryker Medical
Vital Signs Monitor 300 Basic	1,300.00	Welch Allyn
Valueklave 1730 (*Nice, but not a necessity)	1,818.00	Tuttnauer

COST OF EQUIPMENT FOR: HEALTH SCIENCE TECHNOLOGY
(Continued)

NAME OF EQUIPMENT	COST	VENDOR
Overbed Table (Need 3 @ $95.00 each)	285.00	Drive Medical Design & Mfg.
Clear Sundry Jars (Need 3 @ $22.00 each)	66.00	Clinton Industries
Stool with Armrest (Need 3 @ $307.00 each)	921.00	Clinton Industries
2-Hook IV Pole (Need 3 @ $40.00 each)	120.00	Clinton Industries
5111 UMF Exam Table	1,118.00	UMF
(*Nice, but not a necessity) Standard Line Med-Bin Chart (OPUS Compatible) SL28BINS	2,635.00	Harloff
Model MB-T Stainless Steel Cart	193.00	Chatanooga
(Need classroom set of 20 books @ $37.95 each) Medical Spanish Made Easy	759.00	Anatomical Chart Company
(Need classroom set of 20 books @ $38.95 each) Mosby's Dictionary of Medicine, Nursing & Health Professions, 7th Edition ISBN: 0323035620 ISBN-13:9780323035620	779.00	Elsevier

Total cost for all items $26, 666.44
(-Nice by not a necessity items)   11,178.00
             TOTAL $15,488.44

6. COST OF EQUIPMENT FOR: Intro to Horticulture

NAME OF EQUIPMENT	COST	VENDOR
Greenhouse	$80,000	Grower International
Cooler	$2500	I.S.I. Commercial Refrigeration
Record Books – 35 @ $6.00 (based on class size of 35	$210	IMS Materials – College Station, TX
IMS Materials – 2 complete sets	$180.00	IMS Materials – College Station, TX
IMS Materials – supplemental materials – 2 sets	$8.00	IMS Materials – College Station, TX
IMS Materials – Teachers Edition	$105.00	IMS Materials – College Station, TX
PC – 1	$1,148.00	ACS
Printer - DeskJet	$200.00	U.S. Tech
	$84,351.00	
Various other supplies (soil, flowers, etc.) to be purchased by campus		

7. COST OF EQUIPMENT FOR: Introduction to World Agriculture

NAME OF EQUIPMENT	COST	VENDOR
IMS Materials – 2 Ag Sci Topics books – $60/each	$120.00	IMS Materials – College Station, TX
IMS Materials (Chapter Resources) – 2 sets - $9.00/set	$18.00	IMS Materials – College Station, TX
IMS Materials – Teachers Editions	$100	IMS Materials – College Station, TX
Record books-35 @ $6.00 (based on per class)	$210.00	IMS Materials – College Station, TX
PC – 1	$1,148.00	ACS
Printer - DeskJet	$200.00	U.S. Tech
TOTAL	**$1,796.00**	

8. COST OF EQUIPMENT : <u>Marketing (All)</u>

NAME OF EQUIPMENT	COST	VENDOR
Calculators (30) (Currency Exchange Function)	60.00 x 30 = 1800.00	Lee Office Solutions
Camera, Digital Video	649.99	U.S. Tech
Computer w/ Color Monitor (15)	1183.00 x 15 = 17,745.00	ACS
Computer Tables 36" (15)	103.00 x 15 = 1545.00	Indeco Sales
Chairs (15)	48.50 x 15 = 727.50	Indeco Sales
Computer, Notebook/Laptop (Work-based Instructional Arrangement)	1554.00	ACS
Printer, Laser (Color)	892.00	U.S. Tech
Projector, Multimedia/Data/video	1239.00	U.S. Tech
Scanner, Programmable Flatbed	125.00	U.S. Tech
Combination TV/VCR/DVD/w Cart	1200.00	Lee Office Solutions
Wall Display Unit	1000.00	Lee Office Solutions
Cash Register (3) (Specialty Item Food Marketing, Retail)	900.00 x 3 = 2700.00	National Cash Register
Display forms (T-forms, Mannequins, (3) (Specialty Item for Fashion Marketing)	550.00 x 3 = 1650.00	Numerous Vendors Available
Mirror (2-3) (Specialty Item for Fashion Marketing)	30.00	Wall Mart
Wall Maps (World) (Specialty Item International Marketing)	300.00	Lee Office Solutions
Total	**$33,157.49**	

Appendix V

Academic Standards
for
Career Education and Work

Pennsylvania Department of Education

Proposed Academic Standards for Career Education and Work

XXXVIII. INTRODUCTION

The Academic Standards for Career Education and Work reflect the increasing complexity and sophistication that students experience as they progress through school. Career Education and Work Standards describe what students should know and be able to do at four grade levels (3, 5, 8 and 11) in four areas:

- ◆ 13.1 Career Awareness and Preparation
- ◆ 13.2 Career Acquisition (Getting a Job)
- ◆ 13.3 Career Retention and Advancement
- ◆ 13.4 Entrepreneurship

Pennsylvania's economic future depends on having a well-educated and skilled workforce. No student should leave secondary education without a solid foundation in Career Education and Work. It is the rapidly changing workplace and the demand for continuous learning and innovation on the part of the workers that drive the need to establish academic standards in Career Education and Work.

Through a comprehensive approach, Career Education and Work Standards complement all disciplines and other academic standards. If Pennsylvania's students are to succeed in the workplace, there are certain skills that they need to obtain prior to graduation from high school. These skills have been identified in the Career Education and Work Standards, but it is up to individual school districts to decide how they are to be taught. Districts can implement integration strategies within existing disciplines or can implement stand-alone courses to specifically address these standards.

A glossary is included to assist the reader in understanding terminology contained in the standards.

13.1. Career Awareness and Preparation

Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:

13.1.3. **GRADE 3**	13.1.5. **GRADE 5**	13.1.8. **GRADE 8**	13.1.11. **GRADE 11**
A. Recognize that individuals have unique interests.	A. Describe the impact of individual interests and abilities on career choices.	A. Relate careers to individual interests, abilities, and aptitudes.	A. Relate careers to individual interests, abilities, and aptitudes.
B. IDENTIFY CURRENT PERSONAL INTERESTS.	**B. DESCRIBE THE IMPACT OF PERSONAL INTEREST AND ABILITIES ON CAREER CHOICES.**	**B. RELATE CAREERS TO PERSONAL INTERESTS, ABILITIES AND APTITUDES.**	**B. ANALYZE CAREER OPTIONS BASED ON PERSONAL INTERESTS, ABILITIES, APTITUDES, ACHIEVEMENTS AND GOALS.**
~~B~~ C. Recognize that the roles of individuals at home, in the workplace and in the community are constantly changing.	~~B~~ C. Relate the impact of change to both traditional and nontraditional careers.	~~B~~ C. Explain how both traditional and nontraditional careers offer or hinder career opportunities.	~~B~~ C. Analyze how the changing roles of individuals in the workplace relate to new opportunities within career choices.
~~C~~ D. Identify the range of jobs available in the community.	~~C~~ D. Describe the range of career training programs in the community such as, but not limited to: • Two-and-four year colleges • Career and technical **EDUCATION PROGRAMS AT** centers **(FORMERLY AVTS) AND HIGH SCHOOLS** • CareerLinks • Community/recreation centers • Faith-based organizations • Local industry training centers • Military • Registered apprenticeship • Vocational rehabilitation centers	~~C~~ D. Explain the relationship of career training programs to employment opportunities.	~~C~~ D. Evaluate school-based opportunities for career awareness/preparation, such as, but not limited to: • Career days • Career portfolio • Community service • Cooperative education • Graduation/senior project • Internship • Job shadowing • Part-time employment • Registered apprenticeship • School-based enterprise

~~D~~ E. Describe the work done by school personnel and other individuals in the community.	• Web-based training ~~D~~ E. Describe the factors that influence career choices, such as, but not limited to: • Geographic location • Job description • Salaries/benefits • Work schedule • Working conditions	~~D~~ E. Analyze the economic factors that impact employment opportunities, such as, but not limited to: • Competition • Geographic location • Global influences • Job growth • Job openings • Labor supply • Potential advancement • Potential earnings • Salaries/benefits • Unemployment	~~D~~ E. Justify the selection of a career.
~~E~~ F. Explore how people prepare for careers.	~~E~~ F. Investigate people's rationale for making career choices.	~~E~~ F. Analyze the relationship of school subjects, extracurricular activities, and community experiences to career preparation.	~~E~~ F. Analyze the relationship between career choices and career preparation opportunities, such as, but not limited to: • Associate degree • Baccalaureate degree • Certificate/licensure • Entrepreneurship • Immediate part/full time employment • Industry training • Military training • Professional degree • Registered apprenticeship • Tech Prep • **VOCATIONAL REHABILITATION CENTERS**
~~F~~ G. Explain why education and training plans are important to careers.	~~F~~ G. Identify the components of a career plan, such as, but not limited to: • Beginnings of career portfolio	~~F~~ G. Create an individualized career plan including, such as, but not limited to: • Assessment and continued	~~F~~ G. Assess the implementation of the individualized career plan through the ongoing development

H. EXPLAIN HOW WORKERS IN THEIR CAREERS USE WHAT IS LEARNED IN THE CLASSROOM.		
• Career goals • Individual interests and abilities • Training/education requirements and costs H. CONNECT PERSONAL INTERESTS AND ABILITIES AND ACADEMIC STRENGTHS TO PERSONAL CAREER OPTIONS.		
• development of career portfolio • Career goals • Cluster/pathway opportunities • Individual interests and abilities • Training/education requirements and financing H. CHOOSE PERSONAL ELECTIVES AND EXTRA CURRICULAR ACTIVITIES BASED UPON PERSONAL CAREER INTERESTS, ABILITIES AND ACADEMIC STRENGTHS.		
of the career portfolio. H. REVIEW PERSONAL HIGH SCHOOL PLAN AGAINST CURRENT PERSONAL CAREER GOALS AND SELECT POSTSECONDARY OPPORTUNITIES BASED UPON PERSONAL CAREER INTERESTS.		

13.2. Career Acquisition (Getting a Job)

Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:

13.2.3. GRADE 3	13.2.5. GRADE 5	13.2.8. GRADE 8	13.2.11. GRADE 11
A. Identify appropriate speaking and listening techniques used in conversation.	A. Apply appropriate speaking and listening techniques used in conversation.	A. Identify effective speaking and listening skills used in a job interview.	A. Apply effective speaking and listening skills used in a job interview.
B. Discuss resources available in researching job opportunities, such as, but not limited to: • Internet • Magazines • Newspapers	B. Identify and review resources available in researching job opportunities, such as, but not limited to: • Internet • Magazines • Newspapers	B. Evaluate resources available in researching job opportunities, such as, but not limited to: • CareerLinks • Internet (i.e. O-NET) • Networking • Newspapers • Professional associations • Resource books (that is *Occupational Outlook Handbook, PA Career Guide*)	B. Apply research skills in searching for a job. • CareerLinks • Internet (i.e. O-NET) • Networking • Newspapers • Professional associations • Resource books (that is *Occupational Outlook Handbook, PA Career Guide*)
C. Compose a personal letter.	C. Compose and compare a business and a personal letter.	C. Prepare a draft of career acquisition documents, such as, but not limited to: • Job application • Letter of appreciation following an interview • Letter of introduction • Request for letter of recommendation • Resume	C. Develop and assemble, for career portfolio placement, career acquisition documents, such as, but not limited to: • Job application • Letter of appreciation following an interview • Letter of introduction • Postsecondary education/training applications • Request for letter of recommendation • Resume

D. Develop an individualized career portfolio including components, such as, but not limited to: • Achievements • Awards/recognitions • Career exploration results • Career plans • Community service involvement/projects • Interests/hobbies • Personal career goals • Selected school work • Self inventories E. Explain, in the career acquisition process, the importance of the essential workplace skills/knowledge, such as, but not limited to: • Commitment • Communication • Dependability • Health/safety • Laws and regulations (that is **AMERICANS WITH DISABILITIES ACT**, Child Labor Law, Fair Labor Standards Act, OSHA, Material Safety Data Sheets) • Personal initiative • **SELF-ADVOCACY** • Scheduling/time management • Team building • Technical literacy • Technology	D. Analyze, revise, and apply an individualized career portfolio to chosen career path. E. Demonstrate, in the career acquisition process, the application of essential workplace skills/knowledge, such as, but not limited to: • Commitment • Communication • Dependability • Health/safety • Laws and regulations (that is **AMERICANS WITH DISABILITIES ACT,** Child Labor Law, Fair Labor Standards Act, OSHA, Material Safety Data Sheets) • Personal initiative • **SELF-ADVOCACY** • Scheduling/time management • Team building • Technical literacy
D. Identify the importance of developing a plan for the future. D. Identify individualized career portfolio components, such as, but not limited to: • Achievements • Awards/recognitions • Career exploration results • Career plans • Community service involvement/projects • Interests/hobbies • Personal career goals • Selected school work • Self inventories E. Discuss the importance of the essential workplace skills, such as, but not limited to: • Dependability • Health/safety • Team building • Technology E. Apply to daily activities, the essential workplace skills, such as, but not limited to: • Commitment • Communication • Dependability • Health/safety • Personal initiative • Scheduling/time management • Team building • Technical literacy • Technology	

13.3. Career Retention and Advancement

• Technology

13.3.3. GRADE 3	13.3.5. GRADE 5	13.3.8. GRADE 8	13.3.11. GRADE 11

Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:

13.3.3. GRADE 3	13.3.5. GRADE 5	13.3.8. GRADE 8	13.3.11. GRADE 11
A. Identify attitudes and work habits that contribute to success at home and school.	A. Explain how student attitudes and work habits transfer from the home and school to the workplace.	A. Determine attitudes and work habits that support career retention and advancement.	A. Evaluate personal attitudes and work habits that support career retention and advancement.
B. Identify how to cooperate at both home and school.	B. Explain the importance of working cooperatively with others at both home and school to complete a task.	B. Analyze the role of each participant's contribution in a team setting.	B. Evaluate team member roles to describe and illustrate active listening techniques: • Clarifying • Encouraging • Reflecting • Restating • Summarizing
C. Explain effective group interaction terms, such as, but not limited to: • Compliment • Cooperate • Encourage • Participate	C. Identify effective group interaction strategies, such as, but not limited to: • Building consensus • Communicating effectively • Establishing ground rules • Listening to others	C. Explain and demonstrate conflict resolution skills: • Constructive criticism • Group dynamics • Managing/leadership • Mediation • Negotiation • Problem solving	C. Evaluate conflict resolution skills as they relate to the workplace: • Constructive criticism • Group dynamics • Managing/leadership • Mediation • Negotiation • Problem solving
D. Explain how money is used.	D. Explain budgeting.	D. Analyze budgets and pay statements, such as, but not limited to: • Charitable contributions • Expenses • Gross pay • Net pay • Other income • Savings	D. Develop a personal budget based on career choice, such as, but not limited to: • Charitable contributions • Fixed/variable expenses • Gross pay • Net pay • Other income • Savings

		• Taxes	• Taxes
E. Discuss how time is used at both home and school.	E. Develop a personal schedule based on activities and responsibilities at both home and school.	E. Identify and apply time management strategies as they relate to both personal and work situations.	E. Evaluate time management strategies and their application to both personal and work situations.
F. Identify **THE** changes ~~that~~ ~~occur~~ **IN FAMILY AND FRIEND'S ROLES** at ~~both~~ home, ~~and~~ **AT** school **AND IN THE COMMUNITY**.	F. Describe the impact of **ROLE** changes at home, school, and **AT** work, **AND HOW THE ROLE CHANGES IMPACT CAREER ADVANCEMENT AND RETENTION**.	F. Identify characteristics of the changing workplace **INCLUDING AMERICANS WITH DISABILITIES ACT ACCOMMODATIONS**, and explain their impact on jobs and employment.	F. Evaluate strategies for career retention and advancement in response to the changing global workplace.
G. Define and describe the importance of lifelong learning.	G. Describe how personal interests and abilities impact lifelong learning.	G. Identify formal and informal lifelong learning opportunities that support career retention and advancement.	G. Evaluate the impact of lifelong learning on career retention and advancement.

13.4. Entrepreneurship

Pennsylvania's public schools shall teach, challenge and support every student to realize his or her maximum potential and to acquire the knowledge and skills needed to:

13.4.3. GRADE 3	13.4.5. GRADE 5	13.4.8. GRADE 8	13.4.11. GRADE 11
A. Define entrepreneurship.	A. Identify the risks and rewards of entrepreneurship.	A. Compare and contrast entrepreneurship to traditional employment, such as, but not limited to: • Benefits • Job security • Operating costs • Wages	A. Analyze entrepreneurship as it relates to personal career goals and corporate opportunities.
B. Describe the character traits of successful entrepreneurs, such as, but not limited to: • Adaptability • Creative thinking • Ethical behavior • Leadership • Positive attitude • Risk-taking	B. Discuss the entrepreneurial character traits of historical or contemporary entrepreneurs.	B. Evaluate how entrepreneurial character traits influence career opportunities.	B. Analyze entrepreneurship as it relates to personal character traits.
C. Describe age-appropriate entrepreneurial opportunities, such as, but not limited to: • Bake sale • Crafts • Lemonade stand • Pet care	C. Discuss the steps entrepreneurs take to bring their goods or services to market, such as, but not limited to: • Marketing • Production • Research and development • Selection of goods and services	C. Identify and describe the basic components of a business plan, such as, but not limited to: • Business idea • Competitive analysis • Daily operations • Finances/budget • Marketing • Productive resources (human, capital, natural) • Sales forecasting	C. Develop a business plan for an entrepreneurial concept of personal interest and identify available resources, such as, but not limited to: • Community Based Organizations (that is chambers of commerce, trade/technical associations, Industrial Resource Centers) • Financial institutions • School-based career centers

- Small Business Administration services (that is SCORE, Small Business Development Centers, Entrepreneurial Development Centers) - Venture capital	

Academic Standards for Career Education and Work

XXXIX. GLOSSARY

AMERICANS WITH DISABILITIES ACT (PUBLIC LAW 101-336): **THE AMERICANS WITH DISABILITIES ACT IS A FEDERAL CIVIL RIGHTS LAW THAT PROHIBITS DISCRIMINATION AND FOR ENSURING EQUAL OPPORTUNITY FOR PERSONS WITH DISABILITIES IN EMPLOYMENT, STATE AND LOCAL GOVERNMENT SERVICES, PUBLIC ACCOMMODATIONS, COMMERCIAL FACILITIES, TRANSPORTATION, AND REQUIRING THE ESTABLISHMENT OF TDD/TELEPHONE RELAY SERVICES.**

Aptitudes: Capacity to learn and understand.

Associate degree: A postsecondary degree typically earned within a two-year timeframe.

Baccalaureate degree: A postsecondary degree, also known as a bachelor's degree, typically earned within a 4-year timeframe from a college or university.

Benefits: Something of value that an employee receives in addition to a wage or salary. Examples include health and life insurance, vacation leave, retirement plans, and the like.

Budget: A financial plan that summarizes anticipated income and expenditures over a period of time.

Business plan: A prepared document detailing the past, present, and future of an organization.

Career and technical centers: Schools that educate secondary students and adults through academic instruction, job preparation and acquisition of occupational skills leading to credentials or employment, or both, in specific industries. The centers also provide opportunities for transition to postsecondary education and continuing education.

Career cluster: A grouping of related occupations, which share similar skill sets.

Career days: Special events that allow students to meet with employers, career development specialists, community-based organization representatives, and postsecondary educators. Events are designed to encourage students to gain information about careers and job opportunities.

Career plan: A document developed by the student that identifies a series of educational studies and experiences to prepare them for postsecondary education or work, or both, in a selected career cluster or area.

Career portfolio: An ongoing, individualized collection of materials (electronic or hard copy) that documents a student's educational performance, career exploration and employment experiences over time. While there is no standard format that a career portfolio must take, it typically includes a range of work, containing assignments by the teacher/counselor and selections by the student. It serves as a guide for the student to transition to postsecondary education or the workplace, or both.

Career retention and advancement: Career retention is the process of keeping a job. Career advancement is the process of performing the necessary requirements to progress in a career.

CareerLinks: A cooperative system that provides one-stop delivery of career services to job seekers, employers and other interested individuals.

Certificate/licensure: A document, issued by associations, employers, educational institutions, government, and the like, confirming that one has fulfilled the requirements and is able to perform to a specified level of proficiency within a career field.

Child Labor Laws: Legislation governing the employment of children under the age of 18.

Competitive Analysis: A tool that allows a business to identify its competitors and evaluate their respective strengths and weaknesses.

Cooperative education: A structured method of instruction whereby students alternate or coordinate their high school studies with a job in a field related to their academic or career objectives.

Entrepreneurs: Individuals who engage in the process of organizing, managing, and assuming the risk of a business or enterprise.

Entrepreneurship: The process of organizing, managing, and assuming the risks of a business or enterprise.

Fair Labor Standards Act: A federal law that defines overtime and wage requirements (26 U.S.C.A. §§ 201—219).

Fixed/variable expenses Fixed expenses are regular in their timing and amount, and include such things as rent, mortgage, car payment, and insurance. Variable expenses are irregular in their timing and amount, and include such things as food, clothing, home and car maintenance, entertainment, and gifts.

Global influences: Political and cultural changes, which impact the world and its economy.

Gross pay: The amount earned before deductions, such as taxes, insurance, and retirement/pension plan.

Industrial Resource Centers: Non-profit corporations, which provide assistance to improve the competitive position of small-to-medium sized manufacturers.

Internship: A work experience with an employer for a specified period of time to learn about a particular industry or occupation, which may or may not include financial compensation. The workplace activities may include special projects, a sample of tasks from different jobs, or tasks from a single occupation.

Job shadowing: Typically as part of career exploration activities in late middle and early high school, a student follows an employee for one or more days to learn about a particular occupation or industry. Job shadowing is intended to help students explore a range of career objectives and to possibly select a career pathway.

Labor supply: The number of persons either working or unemployed and actively seeking work.

Marketing: The process or technique of promoting, selling, and distributing a product or service.

Material Safety Data Sheets: Federally mandated listings of all hazardous materials that will impact the health and safety of the workers and that are required to be posted in the workplace.

Mediation: Third-party intervention between conflicting parties to promote reconciliation, settlement, or compromise.

Net pay: The amount remaining after deductions, such as taxes, insurance, and retirement/pension plan.

Networking: The act of exchanging information, contacts, and services.

Non-traditional careers: Fields of work for which individuals from one gender comprise less than 25% of the individuals employed in each such occupation or field of work.

O*NET: Occupational Information Network-- is a free public access online web-based system provided by the US Department of Labor, which includes comprehensive up-to-date occupational information including skills, knowledge, abilities and tasks for more than 950 occupations.

Operating costs: The funds necessary to operate a business, not including the cost of goods sold. This is also referred to as overhead.

OSHA: The Occupational Safety and Health Administration--A national agency with representatives in each state who monitor health and safety issues in the workplace.

Professional associations: Organizations of people having common interests.

Professional degree: A title conferred on students by a college, university or professional school upon completion of a program of study.

Registered apprenticeship: A formal program registered with the United States Department of Labor's Bureau of Apprenticeship and Training and with the Pennsylvania Apprenticeship Council. This program must follow strict guidelines as to the types of training and amount of training time an apprentice receives and leads directly into occupations requiring such training for entry.

Resume: A summary of one's personal qualifications, education/training and employment experience.

Salaries/benefits: Financial compensation paid regularly for services (See "benefits" for definition).

Sales forecasting: Predicting the number of services or units likely to be sold over a specified period of time.

School-based career centers: Specialized areas in schools equipped with resources and materials used to research postsecondary and occupational opportunities.

School-based enterprise: The production of goods or services as part of a school program.

SCORE: Service Corps of Retired Executives--A Small Business Administration Federally-sponsored program to assist small-to-medium sized companies.

Self inventories: Evaluations of an individual's strengths, weaknesses, and interests, as it relates to career planning.

Tech Prep: The name given to programs that offer at least 4 years of sequential course work at the secondary and postsecondary levels to prepare students for technical careers. The curricula are designed to build student competency in academic subjects, as well as to provide broad technical preparation in a career area.

Technical literacy: The ability of individuals to use existing and emerging technologies, equipment, language, materials, and manuals to participate intelligently in performing tasks related to everyday life, school or job.

Time management strategies: Scheduling techniques used to effectively and efficiently direct or control activities.

Traditional careers: Fields of work for which individuals from one gender comprise more than 25% of the individuals employed in each such occupation or field of work.

Unemployment: Measurement of the number of people who are not working and who are actively seeking work.

Venture capital: Public or private funds invested in a potentially profitable business enterprise despite risk of loss.

Vocational rehabilitation centers: Educational facilities that provide life skills and occupational training services for individuals with special needs.

Wages: Payments of money for labor or services according to contract and on an hourly, daily, or piecework basis.

Web-based training: Instruction that is available online.

Work habits: Acquired behaviors that individuals regularly perform in completing tasks related to chores, school or job.

Working conditions: The environment in which an individual is employed.

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