

CAREER AND TECHNICAL EDUCATION AND THE 15 EFFECTIVE STRATEGIES FOR INCREASING GRADUATION RATES

Compiled by

Jay Smink, Executive Director

Mary S. Reimer, Information Resource Consultant

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National Dropout Prevention Center

College of Health, Education, and Human Development
Clemson University, 209 Martin Street, Clemson, SC 29631-1555
Telephone: 864-656-2599 email: ndpc@clemson.edu
Web site: <http://www.dropoutprevention.org>

Introduction

The National Dropout Prevention Center conducts and analyzes research, sponsors national and regional conferences, conducts professional development activities and workshops. Additionally, since its inception in 1986, the Center has collaborated with a variety of practitioners to further the mission of reducing America's dropout rate.

The research is clear that students drop out of school for a variety of reasons. Helping students to stay in school, therefore, requires solutions that are multidimensional. The Center has identified 15 Effective Strategies that have the most positive impact on the high school graduation rate. These strategies are both independent and overlapping. They can be implemented as stand-alone programs (i.e., mentoring or family involvement projects), but work synergistically for more powerful results when developed in a school district or school program improvement plan that encompasses most or all of them. The strategies have been successful in all school levels from K-12 and in rural, suburban, and urban centers.

Although each strategy, such as career education/workforce readiness, can stand alone, the strategies are intertwined and enhance each other. Thus, it is helpful for us to carefully analyze how each of the 15 strategies relates to and enhances the others. In the following pages, each of the 15 dropout prevention strategies are defined and then related to various aspects of career and technical education. You will readily see how each strategy, with its separate research base, strengthens the singular strategy of career and technical education to create an effective and powerful dropout prevention plan.

How to Access Programs

Model programs in the National Dropout Prevention Center database may be accessed by going to <http://www.dropoutprevention.org>. Click on *Model Programs* on the left side of the page. Then click on *Program Profile Database* under Menu in the center of the page. In the *Search For* box, type in the name of the program.

Publications in the National Dropout Prevention Center database may be accessed by going to <http://www.dropoutprevention.org>. Click on *Resources* on the left side of the page. Then click on *Library Resource Materials (FOCUS)* under Menu in the center of the page. In the *Search For* box, type in the name of the publication.

You may also search the databases for additional programs and publications by typing in the name of the effective strategy in the *Search For* box.

Additional Publication

Strategies to Help Solve Our School Dropout Problem, by Franklin Schargel and Jay Smink, provides the information you need to apply these programs and practices to reduce the dropout problem in your school or district. The book can be ordered for \$34.95 plus shipping and handling from Eye on Education, 6 Depot Way West, Larchmont, NY 10538, (914) 833-0551.

Log on to www.dropoutprevention.org to find more information regarding the 15 Effective Strategies in dropout prevention.

Family Involvement

General Definition

Research consistently finds that family involvement has a direct positive effect on children's achievement and is the most accurate predictor of a student's success in school.

CTE Related Research

Children develop many of their initial ideas and beliefs about work based on what they hear from their parents (Kerka, 2000).

Family functioning has greater influence on career development than either family structure or parents' educational and occupational status (Kerka, 2000).

Model Programs

The OPT Program (Alexandria, VA) is designed to enable all students to develop basic life and academic skills. Each school site has a full-time facilitator who coordinates a comprehensive range of services: Life Planning Curriculum, family life, sexuality and career education; Academic Skill Improvement Curriculum; Community Service; School and Climate Enhancement. The Parent Involvement component includes parent workshops, recruitment and training of parent volunteers, creative scheduling of parent volunteers; a homework "Hotline", a parents' workroom in the school, special outreach to special needs parents, and Advocacy/ Student Assistance.

The mission of the *Academic Success Center (ASC)* (Columbus, GA) is to Reach, Restore, and Redirect. High standards and expectations are maintained through a structured and well-organized environment, and by utilizing the expertise of parent and community volunteers. Students may use their time at ASC to catch-up and return to their base school, or remain for an extended time and earn graduation credits.

Web Sites

National PTA is the largest volunteer child advocacy organization in the United States.
<http://www.pta.org>

National Coalition for Parent Involvement in Education's (NCPIE) mission is simple: to advocate the involvement of parents and families in their children's education, and to foster relationships between home, school, and community to enhance the education of all our nation's young people.
<http://www.ncpie.org>

The Partnership for Family Involvement in Education (PFIE). The Department of Education administers the Partnership and offers resources, ideas, funding, and conferences relevant to family involvement in education. <http://pfie.ed.gov/>

Publications

Kerka, S. (2000). *Parenting and career development*. Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education. (ERIC Document Reproduction Service No. ED440251). Retrieved August 15, 2002, from http://www.ed.gov/databases/ERIC_Digests/ed440251.html

National PTA. *National standards for parent/family involvement programs*. (2001). Retrieved March 7, 2002, from <http://www.pta.org/parentinvolvement/standards/pfistand.asp>

Early Childhood

General Definition

Birth-to-three interventions demonstrate that providing a child additional enrichment can modify IQ. The most effective way to reduce the number of children who will ultimately drop out is to provide the best possible classroom instruction from the beginning of their school experience.

CTE Related Research

Early childhood experiences play an indirect role in shaping later career behavior (Kerka, 2000).

Young children come to school with preconceived ideas of work based on their youthful observations, experiences, and imaginations. An elementary-level STW program serves to expose these students to a broad range of a careers in the real world and occupations that may be unfamiliar to them and/or nontraditional for their gender, race, or ethnicity (Brown, 1999).

Model Programs

U.S. BASICS (Capitol Heights, MD) is a nonprofit organization that helps disadvantaged citizens reach personal educational goals and successfully transition into the workplace and society. U.S. BASICS is committed to helping schools, community-based organizations, and other education service agencies offer programs to reduce school dropout rates, and provide skills training/re-training, job placement, early childhood development, and family stabilization.

Dorchester County District Two Career Development (Summerville, SC) involves elementary, middle, and high school students and has been recognized by the U.S. Department of Education. The program includes a variety of shadowing, mentoring and apprenticeship programs with businesses in the tri-county area.

Web Sites

The Future of Children has as its primary purpose the dissemination of timely information on major issues related to children's well-being. <http://www.futureofchildren.org/>

National Association for the Education of Young Children (NAEYC) is the nation's largest and most influential organization of early childhood educators and others dedicated to improving the quality of programs for children from birth through third grade. <http://www.naeyc.org>

National Institute on Early Childhood Development and Education sponsors comprehensive and challenging research in order to help ensure that America's young children are successful in school and beyond—and to enhance their quality of life and that of their families. <http://www.ed.gov/offices/OERI/ECL/index.html>

Publications

Bartolini, V. (1996). On-the-job training: Children's play and work. In A. L. Phillips, (Ed), *Topics in early childhood education: Vol. 2. Playing for keeps: Supporting children's play*, (p. 119-126). St. Paul, MN: Redleaf Press. (ERIC Document Reproduction Service No. ED405107).

Bloom, H. W., Ham, S., & Melton, L., O'Brien, J. (2001). *Career academies: Evaluating the accelerated schools approach, a look at early implementation and impacts on student achievement in eight elementary schools*. Retrieved August, 13, 2002, from <http://www.mdrc.aa.psiweb.com/PublicationsFull.htm#CareerAcademiesEvaluation>

Brown, B. L. (1999). School-to-Work and elementary education. *Practice Application Brief, 5*. Retrieved August 15, 2002, from <http://ericacve.org/docs/pab00013.pdf>

Kerka, S. (2000). *Parenting and career development*. Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education. (ERIC Document Reproduction Service No. ED440251). Retrieved August 15, 2002, from http://www.ed.gov/databases/ERIC_Digests/ed440251.html

Reading/Writing Programs

General Definition

Early interventions to help low-achieving students recognize that focusing on reading and writing skills is the foundation for effective learning in all other subjects.

CTE Related Research

The Secretary's Commission on Achieving Necessary Skills (SCANS) Report lists the skills and competencies required to function in a high-performance workplace. Reading and writing are listed first in the basic skills category. Reading skills include the ability to locate, understand, and interpret written information in prose and in documents such as manuals, graphs, and schedules. Writing skills enable the employee to communicate thoughts, ideas, information, and messages in writing; and create documents such as letters, directions, manuals, reports, graphs, and flow charts (*The Secretary's Commission, 1990*).

Since the early 1970s, there have been no substantial gains in high school students' reading scores. As of 1998, the vast majority of 17-year-olds performed at or below basic levels in core academic subjects. Among the skills employers say they seek are basic skills in reading, writing, and computation (*Economic Imperative, 2002*).

In citing a new survey by the American Management Association (AMA), Grimsley (1999) of the *Washington Post* reported that more than one-third of job applicants nationwide lack the basic math and reading skills for jobs they are seeking. This is an increase from 19% just 3 years ago. Executives in wholesale and retail industries who said that 56% of the applicants failed to meet basic requirements reported the biggest gap in math and reading standards; 43% of applicants for manufacturing positions had skill deficiencies (Grimsley, 1999).

Model Programs

Employability and Work Maturity Skills (Ft. Myers, FL) provides computer-based instruction to help students find, obtain, and maintain employment. The 70 lessons are designed with audio to allow visually impaired learners and older students with limited reading skills to develop the skills critical to maintain employment.

The mission of the *International High School* (Long Island, NY) is to enable each student to develop the linguistic, cognitive and cultural skills necessary for success in high school, college and beyond. Fluency in a language other than English is viewed not as a handicap, but rather as a resource for the student, the school and society. The faculty use ESL techniques as a means of reinforcing English language development and facilitating the acquisition of content across the curriculum. Small group tutorials, extracurricular teams and clubs, as well as an ESL class for parents are provided.

The Imaginitis Learning System (Wayne, PA) is a cooperative-learning, after-school language arts program created for students in grades 3 to 12. The goal of the program is to expose the participants to skills needed for effective and productive learning to develop strong workplace competencies.

Early Intervention—Reading/Writing Programs (Cont'd.)

Web Sites

The Northwest Regional Educational Laboratory (NWREL) has an assessment model for good writing. <http://www.nwrel.org/assessment/lessonplans.asp?odelay=2&d=1>

Checkpoints for Progress In Reading and Writing for Families and Communities has been developed to help teachers and learning partners to identify (a) what most children can do in reading and writing by developmental periods and (b) what most children can read, by grade level. <http://www.ed.gov/pubs/CheckFamilies/>

Education World, K-8 Reading & Writing includes lesson plans. http://www.education-world.com/lang_lit/k_8_read_write.shtml

Publications

The economic imperative for improving high schools—Key issue brief. (2002, April). Retrieved August 15, 2002, from <http://www.ed.gov/offices/OVAE/HS/econimperissuebrief.html>

Grimsley, K. D. (1999, April 13). Applicants not making grade. *Washington Post*, E1, E6.

Lynch, R. L. (2000). *New directions for high school career and technical education in the 21st century.* (Information Series No. 384). Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education, Center on Education and Training for Employment. Retrieved August 15, 2002, from <http://ericacve.org/docs/lynch/lynch1.pdf>

Wilse, L., Chia, W. J. K., & Rudner, L. M. (1990). *Identifying necessary job skills: A review of previous approaches.* The Secretary's Commission on Achieving Necessary Skills (SCANS). Washington, DC: Pelavin Associates, Inc. Retrieved September 3, 2002, from <http://wdr.doleta.gov/SCANS/injsl>

Mentoring/Tutoring

General Definition

Mentoring is a one-to-one caring, supportive relationship between a mentor and a mentee that is based on trust. Tutoring is also a one-to-one activity but focuses on academics and is an effective practice when addressing specific needs such as reading, writing, or math competencies.

CTE Related Research

By establishing relationships with caring and competent adults who can provide emotional support and facilitate skill development, less-experienced youth and adults are more likely to bridge the gap between school and work (Brown, 2001).

Youth mentoring programs in the workplace are becoming increasingly prevalent. The newer wave of workplace mentoring involves exposing noncollege-bound youth to career options, academic counseling/tutoring, and emotional support. Youth apprenticeship programs offer excellent opportunities to capitalize on mentoring toward these outcomes (Lankard, 1996).

Model Programs

Project Volver (El Paso, TX) was created in response to high district dropout rates. The Project encompasses various initiatives including a phone-a-thon; collaboration with the Upper Rio Grande Workforce Development Board, Inc. to provide students with educational, vocational, and social service options; and a tele-mentoring component.

The Louisville Education and Employment Partnership (Louisville, KY) is dedicated to helping at-risk youth stay in school and go to work. The Mentoring Program provides students with one or two mentors who aid the student in life skills and grade improvement.

Web Sites

The Northwest Regional Educational Laboratory's National Mentoring Center provides training and technical assistance to mentoring programs through a variety of services and conferences. <http://www.nwrel.org/mentoring/index.html>

National Mentoring Partnership is an advocate for the expansion of mentoring and a resource for mentors and mentoring initiatives nationwide. <http://www.mentoring.org/index.adp>

icouldbe connects teens with career mentors over the Internet to help teens discover what they could be. Adults register their youth programs with *icouldbe* or become a career mentor and part of the national nonprofit resource that is *icouldbe*. <http://www.icouldbe.com/start.asp>

Publications

Brown, B. L. (2001). Mentoring and work-based learning. *Trends and Issues Alert*, 29. Retrieved August 15, 2002, from <http://ericacve.org/docs/tia00097.pdf>

Hansman, C. A. (Ed.). (2002). *Critical perspectives on mentoring: Trends and issues*. (Information Series No. 388). Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education Center on Education and Training for Employment. Retrieved August 15, 2002, from <http://ericacve.org/majorpubs2.aasp?ID=29>

Lankard, B. A. (1996). *Role of Mentoring in Career Education: Trends and Issues Alert*. Retrieved August 13, 2002, from <http://ericacve.org/docgen.asp?tbi=tia&ID=97>

Service-Learning

General Definition

This teaching/learning method connects meaningful community service experiences with academic learning. It also promotes personal and social growth, career development, and civic responsibility, and can be a powerful vehicle for effective school reform at all grade levels.

CTE Related Research

Self-confidence, competence, and empathy for others are some of the personal benefits students realize through service-learning. Additionally, by engaging in problem solving and by working cooperatively and collaboratively with others, students are able to build skills needed for employment in today's workplace (Lankard, 1998).

There are numerous benefits from blending service-learning and school-to-work programs: students can gain powerful work experience while contributing to the community, employers benefit with prepared employees, schools benefit from students actively engaged in learning, and student growth intellectually and personally is supported by their civic and social growth and in their preparation for a career and for life (Dunlap, 1998).

Model Programs

The School-to-Work-to-Life Transition Program (Indianapolis, IN) offers students elective credit in service-learning, character education, and work-study through a combination of coursework and related outside activities. Activities include community service projects and work-based credit for employment, job shadowing, or internships.

The School-to-Work Participant Service Program (Mount Dora, FL) was developed to target the needs of the special diploma student. Together with many local business and service-learning partners this program allows these students to intern at a variety of business and service locations to reduce the dropout rate, develop appropriate career skills needed in the world of work, and also provide a valuable community service.

Web Sites

America's Promise has as its mission to mobilize people from every sector of American life to build the character and competence of our nation's youth by fulfilling Five Promises for young people. <http://www.americaspromise.org/>

Service-Learning Clearinghouse is a comprehensive national site for information on service-learning. <http://www.servicelearning.org/>

National Youth Leadership Council's mission is to build vital, just communities with young people through service-learning. <http://www.nylc.org/>

Publications

Dunlap, N. C. (1998). School to work to life: Linking service learning and school-to-work. *Linking Learning With Life*. Columbia, SC: South Carolina Department of Education.

Lankard, B. (1998). *Service learning: More than community service*. (ERIC Digest, No. 198). Columbus, OH: ERIC Clearinghouse on Adult Career and Vocational Education. Retrieved August 20, 2002, from http://www.ed.gov/databases/ERIC_Digests/ed421640.html

National Commission on Service Learning. (2002). *Learning In Deed: The power of service-learning for American schools*. Retrieved August 15, 2002, from <http://www.learningindeed.org/slcommission/report.html>

Alternative Schooling

General Definition

Alternative schooling provides potential dropouts a variety of options which can lead to graduation, with programs paying special attention to the student's individual social needs and academic requirements for a high school diploma.

CTE Related Research

Numerous studies have demonstrated the positive effect of CTE on reducing high school dropout rates. The Plank study (2001), commissioned by the National Research Center for Career and Technical Education, found that taking CTE courses was related to persisting to graduation (Gray 2002).

The dropout prevention effect was the most dramatic for those students who were at greatest risk of dropping out when they entered high school; namely students whose test scores and GPAs entering high school were one standard deviation or more below the mean (Gray, 2002).

According to an analysis of 1992 longitudinal transcript data, despite entering high school with lower 8th-grade test scores the academic achievement of students completing an integrated career and technology program of study was the same as for those who completed just the academic program (Gray, 2002).

Career academies seem to hold great promise for many high school students, their teachers, and indeed the reform of high schools themselves. It simply makes sense that focused study with like-minded students and teachers, in student-selected interesting and applied subjects, in a small and safe school environment, grounded in adolescent identity development, devoid of social class and race distinctions, and surrounded by supportive teachers and community partners would truly enhance learning. The greatest changes in students who attend and graduate from career academies seem to be in their development of much more positive attitudes with increased interest in learning, planning for the future, awareness of career opportunities and related education expectations, self-confidence, and regard for the academy and its supportive environment (Lynch, 2000).

Model Programs

RODEO (Reach Out to Develop Educational Opportunities) (Lynchburg, VA) provides students ages 16-18 with 5 or less high school credits an opportunity to work toward achieving a GED certificate. Assessment, preemployment training, and counseling are also provided to prepare students for success. Each student is provided instruction in career decision making, labor market information, resumes, applications, interviews, and appropriate job behaviors.

STARS (Maple Grove, MN), a youth group for students in secondary alternative programs, helps prepare students for the workplace in our diverse society. Students become willing, active learners not only in academics, but also in developing personal and social skills that will help them throughout life.

Web Site

The New York State Alternative Education Association is an organization that furthers and supports multifaceted instructional approaches and means of assessing learning for all students, particularly those in nontraditional environments. Many states have similar organizations. <http://www.nysaea.org/>

Publications

Gray, K. (2002, April). *The role of career and technical education in the American high school: A student centered analysis*. Washington, DC: Office of Vocational and Adult Education, U.S. Department of Education. Retrieved August 19, 2002, from <http://www.ed.gov/offices/OVAE/HS/gray.doc>

Hinz, L. (1998). Non-traditional alternatives to school organization. *Seeds of change: Positive directions for schools and communities*. University of Minnesota Extension Service. Retrieved March 6, 2002, from <http://www.extension.umn.edu/distribution/resourcesandtourism/components/DB6178-1.html>

Lynch, R. L. (2000). *New directions for high school career and technical education in the 21st century*. (Information Series No. 384). Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education, Center on Education and Training for Employment. Retrieved August 15, 2002, from <http://ericacve.org/docs/lynch/lynch1.pdf>

Plank, S. (2001). *Career and technical education in the balance: An analysis of high school persistence, academic achievement, and postsecondary destinations*. St. Paul, MN: National Research Center for Career and Technical Education. Retrieved August 12, 2002, from https://www.nccte.org/publications/secure/index.asp#CTEinBlnce_Plank

Out-of-School Experiences

General Definition

Many schools provide after-school and summer enhancement programs that eliminate information loss and inspire interest in a variety of areas—especially important for students at risk of school failure.

CTE Related Research

Contextual teaching and learning (CT&L) encourages students to use their academic understandings and abilities in a variety of in- and out-of-school context to solve simulated or real-world problems, both alone and with others (Lynch, 2000).

Guided educational experiences outside the classroom, particularly in workplaces, strengthen and increase the amount of knowledge that is learned, understood, and retained; and motivate student interest in continued academic learning (Bailey & Merritt, 1997).

Model Programs

Quad-County Tech Prep/School-to-Work (Fort Pierce, FL). This school-to-work program is a comprehensive system that includes school-based learning, work-based learning, and related activities with business and industry in the form of articulation agreements in several technology areas.

Pride Plus (Lynchburg, VA). In addition to the regular curriculum, this program emphasizes workplace training. The instruction program relies on A+ Software to allow for transition back to the regular education program. All students must also enroll in a community service and/or work experience component.

Web Sites

GEAR UP: Gaining Early Awareness and Readiness for Undergraduate Programs has as its mission to significantly increase the number of low-income students who are prepared to enter and succeed in postsecondary education. <http://www.ed.gov/gearup/>

The Afterschool Alliance is a coalition of public, private, and nonprofit organizations dedicated to raising awareness of the importance of afterschool programs and advocating for quality, affordable programs for all children. <http://www.afterschoolalliance.org/>

National School-Age Care Alliance (NSACA) is the only national membership organization representing the entire array of public, private, and community-based providers of after school programs. <http://www.nsaca.org/>

Publications

Bailey, T., & Merritt, D. (1997). *School-to-work for the college bound*. New York: Institute on Education and the Economy, Teachers College, Columbia University. (ERIC Document Reproduction Service No. ED405476).

Lynch, R. L. (2000). *New directions for high school career and technical education in the 21st century*. (Information Series No. 384). Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education, Center on Education and Training for Employment. Retrieved August 15, 2002, from <http://ericacve.org/docs/lynch/lynch1.pdf>

Making the Most of Instruction

Professional Development

General Definition

Teachers who work with youth at high risk of academic failure need to feel supported and need to have an avenue by which they continue to develop skills, techniques, and learn about innovative strategies.

CTE Related Research

Changes in the workplace require continual professional development as a means of skill upgrading (Brown, 2000).

A number of education reformers have recommended that at least 20% of a teacher's total work time be devoted to "professional study and collaborative work." The key is regularity. Discrete and isolated in-service days are no longer the answer. PD must become a part of an educator's daily routine and practice (Maurer, 2000).

A planned program of professional development may lead to certification by the National Board for Professional Teaching Standards. The certification process requires documentation of a variety of teaching strategies used in the classroom and promotes quality teaching. Certification also provides an opportunity to achieve personal growth as a teacher (Kruse & Dvorak, 2002).

Model Programs

The Dalton-Whitfield Chamber of Commerce (Dalton, GA) formed the *Education is Essential (EIE)* Committee in 1982. The School-to-Work EIE collaborates with area public education institutions on projects to connect school-based learning and workplace skills. Projects include staff development opportunities for educators in the workplace (such as summer internships).

Stetson Middle School's Learning City Program (West Chester, PA) has as its overall goal the radical improvement of student learning through linking schools with all other learning environments, including the home, library, museums, the workplace, colleges and universities, and other public and private sector establishments. The program features a database staff development program and instructional learning management system that focuses on the development of student self-responsibility for behavior and learning progress, and an active approach to family and community involvement.

Web Sites

National Board for Professional Teaching Standards is focused on improving schools and student learning by strengthening teaching. <http://www.nbpts.org/>

National Staff Development Council (NSDC), founded in 1969, is the largest nonprofit professional association committed to ensuring success for all students through staff development and school improvement. <http://www.nsd.org/educatorindex.htm>

Making the Most of Instruction—Professional Development (Cont'd.)

Professional Development Speaker Series is centered on critical issues and topics in CTE. The Series is free and designed to provide enrichment experiences for secondary and postsecondary career and technical educators. <http://www.nccte.org>

Publications

Brown, B. L. (2000). Vocational teacher professional development. *Practice Application Brief, 11*. Retrieved August 15, 2002, from <http://www.ericacve.org/docgen.aps?tbl=pab&ID=101>

Kruse, R. A., & Dvorak, C. (2002, September) Why you should become a national board certified teacher. *Techniques: Connecting Education and Careers, 77(6)*, 32-33.

Maurer, M. J. (2000). Professional development in career and technical education. *In Brief: Fast Facts for Policy and Practice*. Retrieved August 15, 2002, from <http://www.nccte.org/publications/infosynthesis/in-brief07-professional/development.pdf>

Making the Most of Instruction

Learning Styles/Multiple Intelligences

General Definition

When educators show students that there are different ways to learn, students find new and creative ways to solve problems, achieve success, and become lifelong learners.

CTE Related Research

Gardner emphasizes the use of apprenticeships, job shadowing, and on-the-job training as a means to reduce the gap between the agenda of school and the agenda of life (Kallenbach, & Viens, 2001).

Vocational educators have a history of varied instructional practices through their promotion of hands-on learning and knowledge transfer (Brown, 1998).

Model Programs

People At Work & Study (PAWS) Program (Cass Lake, MN) combines many effective teaching techniques such as cross-curricular experiences, hands-on activities that are geared for graduation standards completion, employment checklists, community service activities and team-building exercises. PAWS operates as a summer program option of the Cass Lake Area Learning Center (ALC). Working in conjunction with Rural Minnesota Concentrated Employment Program (MN-CEP), students earn wages and academics credits.

STEPS (Azle, TX) is a partnership between Tarleton State University, Azle High School, and the Azle community. The program assigns a teacher and community mentor to a group of students who meet monthly and discuss various topics. Mentors, trained in emotional intelligence, are incorporating these elements into mentoring sessions. The components of STEPS are portfolios, counseling, career planning, and mentoring.

Web Sites

The Association for Supervision and Curriculum Development (ASCD) is a unique international, nonprofit, nonpartisan association of professional educators whose jobs cross all grade levels and subject areas. Founded in 1943, ASCD's mission is to forge covenants in teaching and learning for the success of all learners. <http://www.ascd.org/>

The International Learning Styles Network fosters lifelong academic, intellectual, and personal success through the promotion and dissemination of research, information, publications and other resources focusing on learning, teaching, and productivity styles. <http://www.learningstyles.net/>

Publications

Brown, L. B. (1998). Learning styles and vocational education practice. *Practice Application Brief*. Columbus, OH: ERIC Clearinghouse on Adult, Career, and Vocational Education. Retrieved August 15, 2002, from <http://ericacve.org/docs/pab00007.pdf>

Kallenbach, S., & Viens, J. (Eds.). (2001). *Multiple intelligences in practice: Teacher research reports from the Adult Multiple Intelligences Study*. Boston: National Center for the Study of Adult Learning and Literacy (NCSALL).

Kerka, S. (1999). *Multiple Intelligences and Career Development: Trends and Issues Alert No. 8*. Retrieved August 13, 2002, from <http://ericacve.org/docgen.asp?tbl=tia&ID=130>

Making the Most of Instruction

Instructional Technologies

General Definition

Technology offers some of the best opportunities for delivering instruction which engages students in authentic learning, addresses multiple intelligences, and adapts to students' learning styles.

CTE Related Research

The ability to support new ways of teaching and learning is one of the most frequently given reasons for using technology in education. Technology can provide opportunities for more learner-centered instruction; permit instruction to be contextualized; allow students to explore, make mistakes, and learn from their errors; lead to more active and interactive modes of instruction; and result, naturally, in greater collaboration, cooperation, and small group work (Imel, 1999).

Technology can reduce the educational disparities created by race, income, and region; and accommodate differences in learning (Imel, 1999).

Model Programs

The Business Technology Academy (Redwood City, CA) program makes the educational experience of students meaningful by linking academic course work with vocational education and employment opportunities in local businesses. The core academic program (English, math, and social studies) is integrated with technical courses in computer and business technology. Networked computers and multimedia technology have allowed teachers to show dramatic results in accelerating students' mastery of basic skills and improving their critical thinking and problem-solving skills.

Internships Unlimited (Rockville Centre, NY), a program modeled on a New York City state and nationally validated dissemination project, focuses on the integration of classroom and real world experiences allowing learning to take place throughout the community. Well-planned, well-implemented and well-assessed internship programs provide a powerful vehicle for the students' conceptualized academic learning and exposure to cutting-edge technology.

Web Sites

eSchool News is a monthly newspaper developed to provide the news and information necessary to help K-12 decisionmakers successfully use technology. <http://www.eschoolnews.com/news/browse.cfm>

Electronic School chronicles technological change in the classroom, interprets education issues in a digital world, and offers readers practical advice on a broad range of topics pertinent to the implementation of technology in elementary and secondary schools throughout North America. <http://www.electronic-school.com/>

The International Technology Education Association (ITEA) is the largest professional educational association, principal voice, and information clearinghouse devoted to enhancing technology education through experiences in our schools (K-12). <http://www.itea.org/>

Publications

Imel, S. (1999). Using technologies effectively in adult and vocational education. *Practice Application Brief*, 2. Retrieved August 15, 2002, from <http://ericacve.org/docs/pab00011.pdf>

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Making the Most of Instruction

Individualized Instruction

General Definition

A customized individual program for each student which would allow teachers flexibility with the instructional program and extracurricular activities.

CTE Related Research

Before entering high school, an Individual Graduation Plan (IGP) for each student should be developed with the guidance of parents and educators, for a high school program of study including specific academic courses and projected school-sponsored or –approved activities to enable the student to complete high school and prepare for college (both 2- and 4-years), work (including working at home), and military or community service (Wonacott, 2002).

Model Programs

Patrick Henry High School (Stockbridge, GA) has as its primary focus student success guided by principles of responsibility, accountability, and achievement. Patrick Henry creates a learning environment that allows students to achieve their academic goals in a setting which encourages independence and self-reliance. An individualized instruction program is the backbone of the school.

Students Working in Active Pursuit of Success (SWAPS) (Midwest City, OK) program offers students ages 16-19 in the Mid-Del School District of Oklahoma, who have dropped out of school, the opportunity to resume their education. The academic component of this program is coupled with occupational training. They may take six hours of academics or a combination of academics and CareerTech instruction. The program is a mixture of computer-based instruction mixed in with individual education plans where the students focus on one subject area at a time.

Web Sites

Accelerated Project has extensive experience in schools serving at-risk kids, and experience in targeting student strengths and providing know-how about strategies for high-end learning." http://www.acceleratedschools.net/main_gen.htm

TAS Online. The Accelerated School is a national model of private/public partnerships that comprehensively serves the education and wellness needs of its students. <http://www.accelerated.org/H/Enter.htm>

Publications

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Making the Most of the Wider School Community

Systematic Renewal

General Definition

A continuing process of evaluating goals and objectives related to school policies, practices, and organization structures as they impact a diverse group of learners.

CTE Related Research

The current trend in partnership development is toward collaborations that address educational improvement and reform, and partnerships are now being formed under the auspices of intermediaries. These partnerships are actively involved in improving education and focus on strategic workforce development issues (Imel, 2001).

The Office of Vocational and Adult Education (OVAE) is in the process of formulating recommendations for improving the preparation of America's 13 million high school students, particularly the 25% who participate in career technology education. These recommendations will address the need to prepare students for the Knowledge Economy (*Economic Imperative*, 2002).

Model Programs

The William H. Turner Technical Arts High School (Miami, FL), part of the Miami-Dade County School District, is a model for whole-school reform. The cornerstone of Turner Tech's instructional strategy is its integrated curriculum. Students and teachers are assigned to one of the school's seven academies (such as applied business, health, or agriscience). Students earn a high school diploma and an industry-recognized certification. Turner Tech achieved recognition as one of America's top ten New American High Schools.

Project Transition at Bryan Station Traditional High School (Lexington, TX) focuses on critical transition points and provides a systemic and comprehensive process that helps students succeed in school and has reduced the number of dropouts. A teacher and a social worker work closely with students and parents to help the students succeed. This is a career shadow program linked to eight community businesses.

Web Sites

High Schools That Work (HSTW) was established in 1987. The HSTW goals, key practices and key conditions are a framework for whole-school improvement at more than 1,100 high school sites in 26 states. <http://www.sreb.org/programs/hstw/hstwindex.asp>

National Clearinghouse for Comprehensive School Reform (NCCSR) collects and disseminates information that builds the capacity of schools to raise the academic achievement of all students. <http://www.goodschools.gwu.edu/>

New American Schools (NAS) is a nonpartisan, nonprofit organization whose mission is to increase student achievement through comprehensive school improvement strategies. <http://www.naschools.org/>

Publications

The economic imperative for improving high schools: Key issue brief. (2002, April). Washington, DC: Office of Vocational and Adult Education, Office of the Assistant Secretary. Retrieved August 16, 2002, from <http://www.ed.gov/offices/OVAE/HS/econimperissuebrief.html>

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Kemple, J. J. (2002). *Career academies: Impacts on students' initial transitions to post-secondary education and employment.* Retrieved August 13, 2002, from <http://www.mdrc.aa.psiweb.com/PublicationsFull.htm#CareerAcademiesEvaluation>

Making the Most of the Wider School Community

Community Collaboration

General Definition

When all groups in a community provide collective support to the school, an infrastructure is created that provides a caring supportive environment where youth can thrive and achieve.

CTE Related Research

Many urban communities, for example, have a rich social, economic, and political life that can be used by schools to support real-world learning. Connections with urban employers can pay off in work-based learning opportunities for youth (Imel, 2000).

"It takes a community to raise a child," it takes parents to raise children, and it will take significant partnering with other educators, business and industry partners, and government agencies to "raise" the next generation of graduates (Lynch, 2000).

In the best of situations, a grass-roots local consortium creates the blueprint for tech prep and lays down the foundation for its implementation and continued operation throughout all member organizations [business, industry, labor, parent, students, community] (Bragg, 1995).

Model Programs

Worcester (MA) Public Schools established *Pathways to Success*, a program that earned the district's high school a nomination as a 21st Century High School by the U.S. Department of Education. Pathways to Success provides strong academic preparation along with a well-planned career education program featuring "articulation agreements" with community businesses and institutions of higher education.

The Charter School of San Diego (CA) is a complex system of local programs sponsored by business partnerships in various locations, including storefronts. The program places an emphasis on gaining workforce skills and credits for graduation.

Web Sites

Communities In Schools is the nation's leading community-based organization helping kids succeed in school and prepare for life. <http://www.cisnet.org/>

Public Education Network (PEN) has as its mission to create systems of public education that result in high achievement for every child. PEN is a national association of local education funds (LEFs) advancing school reform in low-income communities across the country. <http://www.publiceducation.org/>

Publication

Bragg, D. C. (1995). Linking high school to postsecondary institutions: The role of tech prep. In W. N. Grubb (Ed). *Education through occupations in American high schools: Vol. 2. The challenges of implementing curriculum integration*. NY: Teachers College Press.

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Making the Most of the Wider School Community

Career Education/Workforce Readiness

General Definition

A quality guidance program is essential for all students. School-to-work programs recognize that youth need specific skills to prepare them to measure up to the larger demands of today's workplace.

CTE Related Research

As recently as the 1950s, 80% of the workforce was unskilled and 20% was skilled. By 1997, these percentages were reversed, with 20% of the jobs being unskilled and 80% being skilled, a trend that has continued to the present day (Economic Imperative, 2002).

A range of studies shows that vocational graduates are more likely to be employed and earn more than their nonvocational counterparts, particularly vocational graduates who worked part time during high school. There is strong evidence that the generic technical skills and occupationally specific skills provided in vocational education increase worker productivity, skill transfer, job access, and job stability when vocational graduates find training-related jobs (Wonacott, 2002).

Controversy has always swirled around vocational education. Lauded by the unsophisticated, panned by the professionals, and shunned by the upwardly mobile, vocational education has been the Lawrence Welk of public education—tolerated and occasionally patronized by the Establishment, but never really accepted (Gray, 1991).

Model Programs

The Alternative Education Program (Orlando, FL) consists of 25 sites for at-risk youth. Through this program, students learn about their interests and abilities and the academic skills needed for jobs, thus encouraging them to make a vital connection between learning and careers. Key collaborations were made with their Partners in Education business community members to provide both materials for school activities and work experiences.

Georgia Real Enterprises (Athens, GA) creates experiential educational programs to foster entrepreneurial knowledge, skill, and enterprise development. The program stresses the importance of linking education and economic development.

School-Based Enterprise for At-Risk Students (Waverly, IA). Among other curricular innovations, alternative school teachers in Iowa are attempting to introduce and integrate work experience directly into their schools as part of their students' overall educational experience. Referred to as "school-based enterprises," these activities are designed to give students the opportunity to produce something for sale to the general public. An example of entrepreneurial education in action is Go-Hawk Graphics, a screen-printing business run by the faculty and students at Greenview High School.

Web Sites

The Association for Career and Technical Education is the largest national education association dedicated to the advancement of education that prepares youth and adults for careers. <http://www.acteonline.org>

Center for Occupational Research and Development (CORD) sponsors the National Tech Prep Network. It is a national nonprofit organization providing innovative changes in education to prepare students for greater success in careers and higher education. CORD assists educators in secondary schools and colleges. <http://www.cord.org>

Publications

The economic imperative for improving high schools: Key issue brief. (2002, April). Retrieved August 15, 2002, from <http://www.ed.gov/offices/OVAE/HS/econimperissuebrief.html>

Gray, K. (1991). Vocational education in high school: A modern phoenix? *Phi Delta Kappan*, 71(6), 437-445.

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Making the Most of the Wider School Community

Violence Prevention/Conflict Resolution

General Definition

A comprehensive violence prevention plan, including conflict resolution, must deal with potential violence as well as crisis management. Violence prevention means providing daily experiences, at all grade levels, which enhance in all students positive social attitudes and effective interpersonal skills.

CTE Related Research

Conflict mediation moves toward worker empowerment to resolve their own differences of opinions before they escalate to conflict (Brown, 1998).

According to an Accountemps survey, "executives spend more than 9 weeks each year, 18% of their work time resolving personality clashes between employees" (Allerton, 1996).

Complexities of communication make it more difficult for culturally, economically, and socially diverse workers to resolve the issues and problems they encounter on the job (Brown, 1998).

Model Programs

The SUCCESS Program (Harlan, IA) for 6th, 7th, and 8th grade students offers teachers and students assistance with academics, study skills, organizational skills, anger management, and social skills. This program actively involves low achieving, unmotivated students in school-related and work-related activities that help improve academics, behavior, and self-esteem.

EXCEL Alternative, Inc. (Sanford, FL) is a one-of-a-kind, nontraditional educational program designed to meet the needs of the at-risk population in middle and secondary schools. EXCEL operates as a business. Students punch a time clock and use a professional planner to maintain a schedule, uphold their professional skills, balance a behavioral budget system and practice conflict resolution skills. Students are required to participate in SCANS 2000 competencies to acquire the skills necessary to be successful in school and in the work force.

Web Sites

National Resource Center for Safe Schools works with schools, communities, state and local education agencies, and other concerned individuals and agencies to create safe learning environments and prevent school violence. <http://www.safetyzone.org>

Office of Juvenile Justice and Delinquency Prevention provides national leadership, coordination, and resources to prevent and respond to juvenile delinquency and victimization. <http://ojjdp.ncjrs.org/>

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