

Section F: Technology/Career Education Information and Programs

The Role of the Career Provider in the School

Whether the career provider is a guidance counselor, a Career Center Coordinator, or a Career Connection teacher, the primary role of this individual is to inform students of the need for educational and career planning and to equip them to navigate through this process. Therefore, career providers need to begin tying education to careers as early as possible but no later than middle school. Since career planning is a developmental process involving career awareness, career exploration, and educational decision making, career providers are paramount in weaving career planning and guidance throughout the curriculum, especially the Technology/Career Education curriculum.

Because career providers cannot single-handedly provide all the career planning and career guidance activities needed by every student, it is imperative that career providers educate and enlighten teachers, parents/guardians, and the community about the importance of these activities and solicit their assistance. As a result, teachers should be able to relate their curriculum to careers in the field and provide relevant career exploration opportunities. While the career provider will never have the opportunity to work in depth with every student, the classroom teacher can provide career awareness and exploration opportunities in a particular discipline to a whole group of students. Parents/guardians are not only a major influence in their children's lives; they are also the "gatekeepers." If students are going to successfully move through their career-planning process, they must have the support of their parents/guardians. A parent program, explaining the importance of the career-planning process and how they can help their children by working with the career providers and other educators in the school, is imperative. The community can be an extremely valuable resource by providing validation to the career-planning process (offering speakers, business/industry tours, employment/salary information, etc.) and by offering hands-on experiences (shadowing opportunities, internship experiences, summer employment, etc.).

If career providers set up this system whereby teachers, parents, and the community are working together to promote career awareness and foster career development, then effective, long-term career planning can be successfully woven into the student's entire educational experience. Setting up this system is increasingly important since students must make a choice about the high school seal they will pursue at the beginning of the ninth grade. Students should be ready to select the college prep and/or technology/career prep program(s) based on the careers in which they are most interested, rather than on arbitrary choice.

In essence, career providers need time to meet and plan cooperatively with the teachers in their school and the sending school (if the students are middle-schoolers) in order to maximize their in-school efforts and involve parents and the community. Career planning is not a "one-shot" procedure whereby a career provider can sit down with the student and parent for 20 minutes during the advisement/registration process and expect the student to make informed decisions. Making informed decisions is the result of the student's evolution through the career-planning process as he/she matures.

WORK-BASED LEARNING PROGRAMS

Education through work-based learning programs, which contributes to both the intellectual and career development of high school students, is gaining acceptance by policymakers and educators as a means to improve the educational outcomes for many students. This increased acceptance of work-based learning programs coordinated by the local education institution has been brought about by changes in the United States and world economies, the American educational system, and the increased focus on the importance of preparing students for the world of work. The intent of preparing students for work is not to take away from academic excellence, but instead, to integrate academic and occupational curriculum to connect school and work. Students should be given every opportunity to receive academic and occupational preparation that equips them with the necessary skills for obtaining employment and/or entering postsecondary education.

As defined by the research and literature, a work-based learning program must include a school-based learning component (classroom instruction in both academic and occupational areas), a work-based learning component (structured work), and a connecting activity component (career development activities). A work-based learning program must include:

- Work experience opportunities for students, either paid or nonpaid.
- Job training and work experiences coordinated with both academic and occupational learning in school-based programs that are relevant to students' program of study choices and lead to the award of a secondary diploma and entrance criteria to a postsecondary institution.
- Workplace supervision.
- Instruction and activities in academic and occupational workplace competencies, including positive work attitudes, employability, and practical skills.
- Broad instruction, to the extent practicable, in all aspects of the industry (see Figure 1).

Work-based learning programs come in many forms, but have the common goal of providing students with experience in the world of work. The most common work-based learning programs available to facilitate the preparation of youth for transition to work include field trips, job shadowing, school-based enterprises, entrepreneurial ventures, internship or practicum, clinical experiences, cooperative education, and youth apprenticeship. These work-based learning programs offer students hands-on workplace experience in order to provide them with opportunities to learn work-related skills and abilities they could not otherwise acquire in a classroom. In addition, these programs may increase the students' prospects for future gainful employment and postsecondary education.

Each work-based learning program is a structured educational experience that integrates classroom learning (school-based) with productive, structured work experiences (work-based) which should be related to a student's career goal. Most work-based learning models are dependent upon local business and industry to provide work experience (either paid or nonpaid)

for students and on the abilities and skills of a work-based learning coordinator who has the responsibility for managing the specific work-based learning program.

Figure 1. All Aspects of the Industry

There are many ways to incorporate all aspects of any industry within a career focus area. For example, in an automotive technology program, instead of only learning automotive repair skills, students can establish and run a repair shop. In doing so, they can study the history of transportation and the automotive industry, the relationship of the shop to other parts of the industry, the physics behind alternative engine designs, pollution and proper automotive waste disposal, the role of auto workers and their organizations, etc.

The Carl D. Perkins Vocational and Technical Education Act of 1998 emphasizes providing students with strong experiences in, and comprehensive understanding of, the industry that the student is preparing to enter. Specific areas that should be emphasized include:

- Planning – examined at both the industry level and at the firm level; various forms of ownership, including cooperatives and worker ownership; relationship of the industry to economic, political, and social context.
- Management – methods typically used to manage enterprises over time within the industry; methods for expanding and diversifying workers’ tasks and broadening worker involvement in decisions.
- Finance – ongoing accounting and financial decisions; different methods for raising capital to start or expand enterprises.
- Technical and production skills – specific production techniques: alternative methods for organizing the production work, including methods that diversify and rotate workers’ jobs.
- Underlying principles of technology – integrated study across the curriculum of the mathematical, scientific, social, and economic principles that underlie the technology.
- Labor issues – worker responsibilities and rights; labor unions and labor history; methods for enhancing workers’ roles.
- Community issues – the impact of the enterprise and the industry on the community, and the community’s impact on the involvement with the enterprise.
- Health, safety, and environmental issues – in relation to both the workers and the larger community.

A key element of all work-based learning programs is that they combine school and work during the same period of time. This may mean some hours of work each day, some days of work during the week, or some weeks of work during the year. Combining school and work serves two purposes. First, it helps young people learn skills and knowledge to qualify for a full-time job in the near future. Second, it gives them the experience of using work to foster their own learning and thus contributes to their capacity for change and continued growth in the long run.

Work-based learning programs should follow a progressive path that can begin early in the educational process and continue through secondary and postsecondary education (grade 16). This continuum of learning and achievement provides a broad range of work-based learning experiences that articulate into initial level job employment and/or postsecondary education. Figure 2 illustrates the continuum of work-based learning programs.

In the early grades, most work-based learning consists of field trips to workplaces. Employees of a participating business take classes of students on a tour of the business and then may meet with them on a regular basis during the school year to discuss characteristics of different jobs, work attitudes and habits, and the students' career interests.

At the middle school or early high school level, students may be given opportunities to participate in a job-shadowing program. Students will watch an employee of a participating business go about his/her work and then meet to discuss the job, the education it requires, and its rewards. Job shadowing is used primarily for motivational and career exploration purposes.

Students may also be given the opportunity at the middle school or early high school level to run a school-based enterprise that provides goods and services to other students, to the school district, or to the public. Elective courses or seminars should be used to prepare the students for the work assignments in the enterprise.

At the high school level and into postsecondary education, more intensive work-based learning experiences are offered. Students may participate in a variety of work-based learning programs that meet their specific needs and abilities. In an internship or practicum, students assume part-time or full-time work positions, usually for only a few weeks or months near the end of the formal schooling. In cooperative education programs, there is a paid work experience over the last year or two of high school that should be coordinated with a career focus area. Clinical experience programs are similar to cooperative education programs, except students are usually not paid and the experience is closely coordinated with academic and occupational courses. These experiences are strictly monitored to meet professional licensing requirements and are predominately in the health and medical field. Youth apprenticeship programs closely coordinate academic and occupational courses and paid work experiences over the last two years of high school and at least one year of postsecondary education or advanced training and are designed to prepare students for high-skill, high-wage occupations. (Note: Each of these work-based learning programs is detailed further in this section.)

Work-based learning programs continue through postsecondary education, where students may alternate going to school full time and going to the workplace full time, or they may use the parallel pattern common in secondary schools, going to the workplace several days a week. In some postsecondary education programs, participation in a work-based learning program extends the time that students need to graduate; in others it does not but may require enrollment during the summer.

WORK-BASED LEARNING PROGRAMS IN GEORGIA

Work-based learning programs vary in the ways they are structured and operated and in their intensity and duration. Following is a discussion of the most common work-based learning programs utilized in Georgia: field trips, job shadowing, school-based enterprises/school-sponsored enterprises, entrepreneurial ventures, internship/practicum, clinical experiences, cooperative education, and youth apprenticeship. Figure 3 describes each work-based learning program, the formal linkage to postsecondary education, payment for work-based learning, grade levels served, school-based related learning, and expected credentials.

Field Trips

Specially planned field trips to businesses and industries provide opportunities for groups of students to explore different workplaces. When students are well prepared beforehand, they ask probing questions about workers' backgrounds and interests, in addition to questions about the product or service provided and the knowledge and skills required for doing the job. This learning experience provides students with knowledge that better prepares them to select secondary and postsecondary programs of study related to their career choice. Although field trips are generally an exploratory strategy, providing career awareness for students in their early years of education, business and industry tours can also be effective for all age groups.

Job Shadowing

Job shadowing is a continuation of career awareness and is typically included in career exploration activities in middle school or high school. Classroom exercises conducted prior to and following job shadowing help students connect their experience to their course work, career focus area, related academic and occupational skills, and future educational options. The student "shadows" an employee at a workplace for one or more days to learn about a particular occupation or industry. Job shadowing is intended to help students refine their career objectives, select a career focus area for the latter part of high school, and participate in a more advanced level of work-based learning.

School-Based Enterprises/School-Sponsored Enterprises

A school-based enterprise involves students producing goods and services as part of their educational program of study. School-based enterprises assist students in developing the competencies needed to own and manage enterprises. In some school-based enterprise experiences, the local school district owns the materials and other required inputs and the students maintain financial records to determine returns on investments. The students plan, implement, conduct, and evaluate the operation of the business, including the production and distribution of goods and/or services. These enterprises may range from building houses, running restaurants, or managing school stores to publishing periodicals and newspapers, conducting marketing research studies for local business and industry, or engaging in small-scale manufacturing.

Other school-based enterprises involve public and private partnerships. In such partnerships, the private business provides the equipment and materials necessary to establish and operate the business, while the local school district provides faculty and staff for instructional and supervision purposes.

A community development approach can be very effective in designing student-run enterprises. Students can assess and research their community's resources and develop an economically viable business. Students may manage this business to experience all aspects of the industry approach. Enterprises could include a childcare center or a housing rehabilitation business. Such activities can provide the same work preparation advantages as employer-based apprenticeships. In addition, a distinctive advantage of school-based enterprises and related programs is that it allows students to assume highly responsible roles that would not be accessible in the adult workplace.

Entrepreneurial Ventures

Entrepreneurship experiences assist students in developing the competencies needed to own and manage enterprises. Students plan, implement, operate, and assume the financial risk in a business that includes production and distribution of goods and/or services. Students must maintain complete and accurate records. An entrepreneurial experience provides students with the opportunity to develop the necessary skills and competencies to become established in their own business or to gain employment. Entrepreneurship experiences could include farms, businesses, homes, schools, or community facilities.

Internship/Practicum

An internship or practicum (educational institutions use the two terms synonymously since the two models are very similar in nature) tend to be a one-time, short-term placement that is directly related to a student's program of study. Internships/practicums may or may not provide integration of academic and professional occupational instruction. Internships and practicums typically begin after completion of school-based learning in a student's career focus area or a related academic area. These placements are usually for intense observation of how a job is performed in a specific career/employment area and are usually nonpaid; however, a student may be offered a small stipend from the participating business. During the internship/practicum, the student usually has minimal contact with the school-based instructor, receives all support and work-based learning experience at the job site, and is evaluated by the participating employer.

Compared to cooperative education programs, which provide ongoing school-based learning, internships, or practicums are specifically work-based and occur after a school-based learning component has been completed. Internships/practicums are similar to apprenticeship-type training and advanced job shadowing in that students learn new aspects of a career or profession and observe and practice new skills. Internships/practicums, like job shadowing,

provide exposure to broad career awareness and specific practice of employability skills. The student acquires a general awareness of employment and not necessarily job-specific skills in the internship/practicum.

Characteristics of an internship or practicum include:

- Allowing students to observe the world of work and to develop needed workplace skills.
- Targeting experiences to a student's program of study.
- Allowing students to learn work terminology, work environment, and business and industry protocol.
- Applying school-based learning theories in the work setting.
- Acquiring firsthand professional experience.
- Developing positive work habits and abilities.
- Offering opportunities to test for potential aptitudes for a specific career area prior to graduation.

A key component to the success of an internship or practicum as a work-based learning experience is the length and amount of time scheduled for the training. Students should participate in the experience for an extended length of time (e.g., a full semester or summer) and for at least two or more hours per day, with full days being the very best situation. Optimal outcome is a result of pairing students with supportive professionals who will allow the students to benefit from all aspects of participation in business and industry. School-based support could include seminars and classroom instruction for discussion of work-related issues and work on academic components of the internship/practicum. This can be facilitated through career counseling, which aids in the student's transition from the experience to work, further training, and/or postsecondary education.

Clinical Experiences

Clinical experiences are used primarily in the health and medical career areas; however, they can also be used for human resource and legal career areas. These areas of clinical experience include (but are not limited to) such career focus areas as allied health services, dental health, medical/physician professions, and veterinary medicine. Human service areas include childcare, counseling, food services, law, and social and family services.

To meet the needs of students enrolled in academic and occupational courses that require clinical training, experiences in this setting incorporate school-based learning in a simulated laboratory for mastery of clinical skills necessary for each student's preferred clinical course of study. Clinical experiences are typically set in hospitals and medical treatment facilities under close supervision of an educational preceptor or instructor and are supported by the employees of each specific clinical setting. Clinical experiences are different from other structured work-based learning programs in that they require on-site supervision at all times by a certified teacher, school-based personnel with a medical or social work degree (e.g., R.N. or MSW), or a work-based instructor with these same qualifications.

Clinical experiences are correlated with academic and occupational curricula and provide students with an opportunity for “real-life skills practice” in situations with patients, clients, physicians, lawyers, social workers, and clinical specialists. These clinical practices are considered an extension of the curriculum and are usually nonpaid experiences for students in the program.

Learning in the clinical setting is guided by licensure requirements in the health and medical profession (e.g., nursing assistant to doctor) as well as the areas of social work and law practice (i.e., law boards and social work licensing). Many secondary courses in health occupations include clinical experiences at various stages of the curriculum and can possibly lead to certification as a nursing assistant.

Cooperative Education

Cooperative education programs are the most commonly available form of work-based learning in the public schools that is designed to assist students in making the transition to careers. Cooperative education programs feature agreements between schools and employers to provide on-the-job experiences that relate to a student’s career focus. These experiences are based on objectives jointly developed by school personnel and an employer within the student’s career area.

In a typical cooperative education program, employers provide paid part-time jobs in the student’s career field. A teacher-coordinator of the cooperative education program arranges placements, develops a training plan with the employer specifying what the student is expected to learn on-the-job, and makes periodic supervision visits to the employer’s business. The employer evaluates the student’s job performance in consultation with the teacher-coordinator.

Cooperative education programs provide paid work experiences linked to the career/technology program the student is pursuing. Students work on the job part-time (usually in the afternoon) in a paid position and attend both academic and occupational-related courses during the remainder of the school day.

There are two types of cooperative education programs in the state of Georgia. In the first type, the educational institution has a separate program for each specific technology/career area: agricultural education, business education (referred to as CBE—Cooperative Business Education), family and consumer sciences education, marketing education, and trade and industrial education (referred to as DCT—Diversified Cooperative Education). A school may not offer a cooperative education program in each program area, but the programs that it does provide offer a specific occupational curriculum and instruction to students within that area. The second type is the combination or interrelated approach. In schools where student enrollment is limited or employment opportunities in the community are scarce, a single cooperative education program may exist. A single program provides work-based learning experiences for students in a variety of occupational areas. The curriculum is highly individualized for the student, depending upon his/her placement and career objective.

Cooperative education programs utilize a method of instruction that features agreements between schools and employers to provide on-the-job training related to a student's career focus area in school and based on predetermined and definable performance standards jointly developed by the school and the employer. Schools and participating businesses or organizations develop written education training and evaluation plans to guide and measure the progress and the success of the student. Academic credit is awarded for successfully completing the work experiences, although credit hours earned and levels of intensity vary, depending upon the program of study and educational institution. Emphasis is placed on coordination and integration between work sites and classroom learning. Aspects that should be considered when developing work-based learning experiences in a cooperative education program include:

- Demonstrating relevancy of academic and technical skills needed on the job.
- Providing students with access to skilled employees in order to gain on-the-job knowledge and technical skills.
- Assuring that students are enrolled in a related vocational/technical course that correlates to the placement of the student at a work-based learning site.

Youth Apprenticeship

Youth apprenticeship is the newest form of work-based learning program. This program offers students both school-based and work-based experiences. The school-based is a highly structured curriculum integrating both academic and occupational experiences. The work-based portion provides a paid on-the-job training experience that is related to the curriculum and is highly intensive. The emphasis is on contextual, real-world learning through extensively structured work-place experience.

In comparing youth apprenticeship to other work-based learning programs such as cooperative education, major differences can be noted. The youth apprenticeship program is usually of a longer duration (two to four years in length) and necessitates additional curriculum modification, as it requires greater collaboration among educational institutions (secondary and postsecondary) and employers. Youth apprenticeship programs stress more formal linkages between academic and occupational disciplines and between the classroom and the workplace that should result in a student acquiring sophisticated technical skills.

Because of its high academic standards and high-skill career opportunities, effective youth apprenticeship programs require extensive coordination between employers, schools, labor, and government. As designated by Georgia legislation, defining characteristics of the youth apprenticeship program are:

- Employers' active participation. Jobs, training, and mentoring opportunities are provided to participants. In addition, employers assist in developing curricula and setting industry standards.
- Integration of work-based and school-based learning. Structured classroom instruction and workplace experiences are integrated so that one reinforces the other and allows for the acquisition of skills with increasing levels of difficulty and complexity.
- Integration of academic and vocational learning. Cognitive and technical skill development, high academic standards, and infusion of each with aspects of the other that break down the traditional barriers between academic and vocational learning.
- Secondary and postsecondary education linkages. Structured connections generally begin in the 11th or 12th grade and continue into one or two years of postsecondary education.
- Recognition of occupational skill attainment. In addition to the high school diploma and the postsecondary certificate or degree, students receive an award of a broadly recognized qualification of occupational skill attainment within a technical area.

This combination of “real” work experience, the student-employer relationship, integration of education and work, and recognition of both educational and occupational accomplishments is designed to provide students with structured pathways from secondary education to postsecondary education which results in full-time employment in a highly skilled occupational area.

BENEFITS OF WORK-BASED LEARNING PROGRAMS

Effective work-based learning programs provide a wide range of specific benefits to students, employers, educational institutions, and the community. A work-based learning program can benefit participating *students* by:

- Providing opportunities to apply academic proficiencies.
- Establishing a clear connection between education and work.
- Increasing motivation and retention by showing the relevance of academic and occupational instruction.
- Providing opportunities to explore possible careers.
- Enhancing skill development.
- Improving postgraduation job prospects.
- Developing workplace responsibility.
- Providing opportunities for leadership development.
- Providing opportunities to develop relationships with adults outside of education.
- Establishing professional contacts for future employment.
- Establishing positive work habits and attitudes.
- Encouraging completion of secondary education and enrollment in postsecondary education.
- Helping develop an understanding of the workplace.

A work-based learning program can benefit participating *employers* by:

- Providing an opportunity to prepare future employees.
- Offering a source of skilled and motivated future employees.
- Reducing the costs of recruitment and training.
- Improving employee retention.
- Offering opportunities to provide community services.
- Encouraging involvement in the curriculum development process.
- Increasing employer visibility in education.
- Providing an opportunity to communicate required job-specific proficiencies to educational personnel.

Work-based learning programs can benefit *local educational institutions* by:

- Expanding curriculum and learning facilities.
- Providing access to the latest equipment and technology.
- Enhancing education's ability to meet the needs of diverse student populations.
- Providing opportunities for individualized instruction.
- Making education more relevant and valuable to students.
- Increasing student retention.
- Augmenting interaction between education and the business community.
- Promoting faculty interaction with the business community.
- Keeping academic and occupational curricula up-to-date through communication with business and industry.
- Facilitating communication regarding actual academic and occupational proficiencies required by business and industry.

Successfully implemented work-based learning programs can benefit the local *community* by:

- Providing an informed, competent, and productive future workforce.
- Ensuring cooperation and understanding between education, business/industry, and the community.
- Enhancing awareness of local employment opportunities.
- Building the foundation for a more productive local economy.

KEY COMPONENTS AND RESPONSIBILITIES FOR A WORK-BASED LEARNING PROGRAM

Several essential key components must be in place for work-based learning to be successful. It is the responsibility of the work-based learning coordinator and the administration and faculty in an educational institution to make sure that these components are in place for students, no matter which work-based learning model on the continuum is used. Each of these components will vary according to the selected work-based learning model. Job shadowing, for instance, would not require as in-depth an educational training agreement or training plan as a youth apprenticeship program, but appropriate documentation would be needed for the job

shadowing experience to be of educational value. Definitions of key components are provided in Figure 4.

Figure 4. Definitions of Key Components

- Work-Based Learning Coordinator. The individual employed by the local education agency to implement all aspects of a specified work-based learning program.
- Work-Based Learning Site. The place of “employment” (either paid or nonpaid) of a student participating in a work-based learning experience.
- Work-Site Supervisor. An experienced employee at the work-based learning site who provides guidance and encouragement to the student as well as being involved in teaching work skills and job responsibilities as indicated on the educational training plan.
- Educational Training Agreement. An agreement or memorandum that defines the training and personal responsibilities to which the employer, the educational institution, the student and the parent(s) or guardian(s) have committed themselves.
- Educational Training Plan. The educational training plan outlines the skills or experiences the student will receive at the work-based learning site under the guidance of the work-site supervisor, correlated to the student’s program of study.
- Assessment and Evaluation. Ratings and written evaluations of a student’s performance at the work-based learning site by the work-site supervisor that are used to measure a student’s progress in mastering occupational skills, work attitudes and conduct, and personal traits and attributes.

For a work-based learning program to be effective, responsibilities for different aspects of the program must be assumed by all parties involved with the program. The educational institution's responsibility to work-based learning programs is to:

- Support the work-based learning program(s) and advisory committee(s).
- Provide a written plan for implementation of work-based learning program(s).
- Provide students enrolled in technology/career and academic programs the opportunity to participate in work-based learning experiences.
- Maintain specific records as required by local, state, and federal regulations.
- Disseminate copies of materials related to work-based learning program(s) to principals, faculty, students, parents/guardians, and employers.
- Provide scheduling flexibility, whenever possible, to assist in promoting work-based learning program(s) and recruiting students.
- Ensure that the health, safety, and working conditions of the students enrolled in work-based learning programs are satisfactory.
- Verify proper insurance coverage.
- Assist in identifying potential work-based learning sites.

- Provide sufficient time for work-based learning personnel to coordinate on-the-job work experience.
- Provide adequate resources for faculty and work-based learning personnel to cover expenses associated with work-based learning programs.

The local education administrator's responsibility to work-based learning programs in his/her school is to:

- Review the standards and indicators for work-based learning programs in order to implement, administer, and monitor the programs.
- Recognize work-based learning programs as an extension of the school's curriculum.
- Support the activities involved with the operation of work-based learning programs.
- Adhere to federal, state, and local regulations in regard to student employment.
- Monitor the coordination activities of work-based learning coordinator personnel.
- Monitor record-keeping forms for the work-based learning programs.

The work-based learning coordinator's responsibilities are to:

- Plan and coordinate the work-based learning program with the individual teachers and students.
- Locate, analyze, and evaluate the suitability of work-based learning sites.
- Explain the work-based learning program continuum to prospective employers.
- Review student applications for the work-based learning program.
- Interview students and notify students of acceptance into the work-based learning program.
- Verify that students are prepared for job interviews and capable of completing job application forms.
- Process student agreement and parental permission forms.
- Prepare the educational training agreement and secure proper signatures.
- Assist in the development of the educational training plan.
- Maintain student and coordination records and submit all required reports.
- Keep local administrators abreast of the work-based learning program's operation.
- Ensure that each student in the work-based learning program has a meaningful on-the-job experience.
- Monitor the work-based learning program for compliance with state and federal regulations and inform the employers of these regulations regarding training, child labor, safety, etc.
- Make regularly scheduled coordination visits to the work-based learning site to consult with the work-site supervisor and to render any needed assistance with training or education problems and/or concerns of the student.
- Complete evaluation forms with the work-site supervisor each grading period and conduct follow-up session with the student.
- Verify that eligible students receive the unit(s) of credit.
- Assist graduates in securing full-time employment and/or further education and follow up program completers.

- Serve as a public relations person for the work-based learning program and publicize, whenever possible, the program to all audiences.
- Maintain required program documentation.

The academic and vocational instructors' responsibilities to work-based learning programs are:

- Recommend qualified students who meet criteria for the work-based learning programs.
- Assist the work-based learning coordinator in locating potential work-based learning sites.
- Assist in coordinating the learning activities on the job with those in the educational program through both academic and career/technology classes.
- Meet with the individual students and work-based learning personnel when necessary to discuss academic and occupational competencies required for successful completion of the work-based learning program.

The guidance counselors' responsibilities to work-based learning programs are to:

- Assist with the recruitment of students for work-based learning programs.
- Advise work-based learning personnel about prospective students who could benefit from participation in the program.
- Assist in scheduling.
- Provide career and educational planning assistance to students.

The student's responsibilities in a work-based learning program are to:

- Meet the criteria for job placement.
- Maintain regular attendance, both in school and on the job.
- Exhibit honesty, punctuality, courtesy, a cooperative attitude, proper health and grooming habits, appropriate attire, and a willingness to learn.
- Conform to all rules and regulations of the employer.
- Complete all of the necessary forms and reports required in the program.
- Provide transportation to and from the work-based learning site.
- Provide proof of accident insurance coverage.
- Remain in the work-based learning position unless there is prior knowledge and consent by the work-based learning coordinator.
- Maintain educational attainment in the academic and career/technology classes.
- Consult the work-site supervisor and work-based learning coordinator about any difficulties at the work-based learning site.
- Exhibit proper conduct in school as well as on the job.

The parent's/guardian's responsibilities to the work-based learning program are to:

- Be involved in their child's participation in the work-based learning program.
- Share responsibility for the student's conduct on the job and while in the work-based learning program.

- Sign the educational training agreement and parental permission form.
- Provide transportation for the student to and from the work-based learning site.
- Provide documentation of responsibility for accident insurance coverage and automobile insurance coverage.
- Encourage the student to perform both classroom and work-based learning responsibilities in an efficient and effective manner.
- Contact the work-based learning coordinator about concerns and inquiries rather than the work-based learning site.

The employer's responsibilities to the work-based learning program are to:

- Follow all federal, state, and local regulations regarding the employment of students.
- Follow the guidelines established by the work-based learning coordinator and educational institution.
- Provide workers' compensation insurance for students as required by law.
- Provide each student employed with a work-site supervisor.
- Complete an educational training agreement and educational training plan.
- Assist in the evaluation of the student each grading period.
- Treat the student as a regular employee.
- Avoid displacing other workers who perform similar work.
- Provide safety instruction.
- Endeavor to employ the student for the entire agreed-upon training period.
- Avoid exploitation of the student for private gain.

Summary: To assist in the development and implementation of work-based learning programs in the state, a task force composed of business and industry representatives, work-based learning personnel, and administrators identified standards and indicators for work-based learning programs in the state. These standards and indicators are described in Section II of this guide. Standards and indicators identified include:

- Philosophy Standards with ten category-specific indicators.
- Advisory Committee Standard with four category-specific indicators.
- Classroom Learning Standard with four category-specific standards.
- Work-based Learning Standard Statement with twelve category-specific indicators.
- Articulation Standard Statement with one category-specific indicator.
- Marketing and Promotion Standard with two category-specific indicators.
- Evaluation Standard with two category-specific indicators.

Portfolios

As educational reform and restructuring have evolved, the portfolio concept has emerged as a cornerstone of that movement. Although portfolios have been used for years in the arts and business, schools are now using this concept to help students explore the developmental aspects of their learning and growth. This concept has great potential for showcasing the major results of a developmental school counseling program and integrating career development, an important dimension of human development, as a lifelong learning process.

A growing number of programs that integrate academic and vocational content, link school-based and work-based learning, and organize curriculum around projects are finding it necessary to augment or replace paper-and-pencil tests with authentic methods of assessment. The emphasis of authentic assessment is not only on what knowledge the student has gained but also on how he or she gains and demonstrates that knowledge. Some of the authentic techniques used in school-to-work programs include:

Performance-Based Assessment

Performance-based assessment is designed to capture not only what the student knows but also how well he or she is able to apply that knowledge in the real world. For example, while a written driving test assesses one's knowledge of the rules of the road, the actual driving test reveals real driving skills. Performance-based assessment allows students to demonstrate knowledge and skill. From mastering the lathe to composing a poem, students are asked to perform what they know and are able to do, both individually and as part of a team.

Portfolios

Portfolios allow students to convey the creation of work, not just final test scores. A portfolio is a collection of student work completed over time and selected by the student, often in consultation with the teacher. The work selected is not necessarily best work—a student may be asked to include problematic pieces, notes, or rough drafts that detail the evolution of a project. This process of selection requires the student to reflect on his or her work and analyze how projects have developed.

Portfolios provide a comprehensive view of student performance within the context of a prescribed agenda. It is only a portfolio if it allows the student to participate in, rather than be the object of, assessment. Most importantly, the portfolio provides a forum that encourages students to develop the abilities to become independent, reflective, self-directed individuals.

One of the aims of using portfolios is to design ways to monitor student progress that will also model personal responsibility in questioning and reflecting on one's work. Well-planned portfolios can become a means for staff and students to understand the educational process at the level of the individual learner. The sample on the next page shows the NOICC model for portfolios.

Exhibitions of Mastery

Exhibitions of mastery are student demonstrations or presentations that showcase their work. Exhibitions include an important by-product: the development of presentation skills including outlining, explaining, public speaking, and the use of visual images. Exhibitions may also incorporate student self-evaluation, peer evaluation, and review by a jury of professionals.

Why is a Career Development Portfolio Needed?

- Educational systems are charged with preparing students for productive employment in a global economy and success in life.
- Career development is an ongoing process, not an isolated event. Schools need to help students with career decisions by facilitating the process and modeling appropriate ways to make sound decisions.
- The personalized portfolio helps students take responsibility for and have ownership of their career decisions.
- Many large companies are now requesting transcripts and portfolios for documentation of work-based learning skills when hiring.
- The portfolio model is now being used in many schools as a viable alternative to objective and standardized testing to assess student progress.
- The portfolio serves to educate students about the many facets of career decision making, while serving as a repository for their work.
- The comprehensiveness of the portfolio requires that students use higher-level analysis, synthesis, and evaluation skills.
- Students often need a tangible means of seeing their progress and direction.
- The purpose of the portfolio's sequential planning activities is to provide better linkage of education to future career plans.
- The portfolio allows for a variety of activities, procedures, products, and opportunities, which contribute to a better understanding of the big picture.
- All students deserve the opportunity to develop individualized career plans.

Examples of Portfolios and Career-Planning Tools

Many different portfolios and planners have been developed. Generally, most have the same goals but vary in the amount of specificity and direction provided to the student and supervising counselor or staff person. A less-structured approach involves a series of folders with pockets that are used to collect career development-related information. For example, one folder could be used for Work and Community Experiences. That folder would contain documentation of employer visits, volunteer experiences, employer/work evaluations, work experiences, job shadowing experiences, work records, and leadership experiences. Other folders could contain educational experiences, results of standardized tests, and inventories or self-assessments.

Two other portfolios and planners are *Get A Life* and the *Career Options Planner* and *Career Options Portfolio*. To obtain copies of *Get a Life* (example 1), contact the American School Counselor Association at 5999 Stevenson Avenue, Alexandria, VA 22304, phone: 1-800-347-6647. Flyers are available free of charge. Copies of the portfolio and planner cost \$2 each in quantities of 50. To obtain copies of the *Career Options Planner* and *Career Options Portfolio* (example 2), contact the Center on Education and Work Publications Unit, 1025 W. Johnson Street, Madison, WI 53706, phone: 1-800-446-0399. Flyers are available free; the cost of the planner and portfolio is \$2.60 each in sets of 15. Quantity discounts are available.

Example 1: *Get a Life: Your Personal Planning Portfolio*

This portfolio highlights the message that the type of life one leads depends greatly on the choice of careers and the preparation for them. The rest of the portfolio attempts to illustrate the important facets of career development. It leads students through the process of analyzing and synthesizing information about their lives, which can lead to more purposeful and meaningful careers.

The personal planning portfolio is intended to be used as a complement to the cumulative folder, rather than as a substitute. Whereas the cumulative folder is the school's record, the personal planning portfolio is the student's chronicle of the journey through the career-development process. Upon graduation from high school, students should be able to take the personal planning portfolio with them as a building block for future career development.

The portfolio is provided for students so they may understand the relevance of their career development experience to their learning experiences. Essentially, the portfolio provides a tangible means by which students may collect and use important information to assist with personal, educational, and career decision making.

There are four sections in the portfolio:

Self-Knowledge is considered fundamental to decision making because of the unique blend of interests, aptitudes, traits, backgrounds, and personal styles that individuals bring to the process.

The *Life Roles* section is one of the unique features of the personal planning portfolio in that it highlights the cultural and social influences that have such a strong impact on people's lives. By showcasing the significance of one's cultural heritage, lifestyle, and leisure time pursuits as well as the influences of stereotyping and interpersonal relationships, students are challenged to explore factors that may limit or enhance their life choices.

The *Educational Development* section encourages students both to understand their own learning needs and academic progress and to assume responsibility for educational training that is personally meaningful.

In the *Career Exploration and Planning* section, students explore how choices of various occupations can influence other facets of one's life, while engaging in a process for making career decisions.

Each section of the portfolio is divided into two components: personal files and competency files. The personal files provide spaces for the students to enter important information and reflections. The competency files address individual competencies from the National Career Development Guidelines. Space is provided to list the activities and experiences that have been completed for mastery of the competencies.

Because this portfolio model is primarily designed for the middle grades, high school, and beyond, two columns are provided in the competency files for documenting a developmental chronology. The early years section accommodates the transition from elementary school to middle school, while the high school section focuses on the final four years of school and future plans. It is important to note that schools are given the freedom to develop, integrate, or redesign their own activities to fit local needs and curricula.

The competency files not only document activities and experiences related to particular competencies, they also serve as an accountability mechanism. Furthermore, this section provides a place to enter the grade level and date on which a particular activity was completed or an experience discussed, as well as a column in which the counselor or advisor indicates that the competency has been addressed. The school assumes major responsibility for providing the experiences and activities that will serve as the foundation of the competency files.

Although school staff are responsible for designing appropriate experiences, the students complete the personal files. One of the most important premises of the portfolio concept is that the student's entries will be evolving, developmental, and will grow increasingly more focused.

It should be noted that this portfolio does not include the activities and experiences that students need to participate in to master a competency. The portfolio provides guidance as to what data should be entered but not the way the information should be collected by the student.

Example 2: *Career Options Planner and Career Options Portfolio*

The *Career Options Planner* and *Career Options Portfolio* are integrated materials designed to help middle and high school students develop realistic career plans. In developing their plans, students first assess their interests, skills, and values. They then link their self-assessment with the other tests and inventories in order to set realistic career goals for themselves. After setting their career goals, students develop educational plans for completion of high school and beyond to achieve those goals.

The planner is to be completed in sections, usually in the sophomore year, and is to be used for an ongoing activity throughout the year. It can be used as the content activities prior to the time when entries are made by the student in the *Get a Life* portfolio or can be used in connection with the *Career Options Portfolio*.

The *Career Options Portfolio* provides a systematic way for students to record their career development progress and make an educational plan. It is a vehicle that can be used to record and update information in each of the remaining high school years. The major learning objectives of these materials can be summarized by relating them to the National Career Development Competencies and Student Indicators of Achievement, included at the end of this section.

The *Career Options Planner* and *Career Options Portfolio* are divided into the following sections: Self-Assessment (interests, skills, and values); Academic Assessment (achievement tests, study skills, and career options); Work Preferences and Career Options (occupational preferences and career options plan); and Education and Career Plans (career goals, high school plans - junior year, high school plans - senior year, and personal and career-development activities).

Career Development Competencies

Early Years	High School	Portfolio Section
Explores the importance of positive self-concept.	Explores the influence of a positive self-concept on decision making.	•Self-Knowledge
Acquires skills to interact with others.	Acquires skills to interact positively with others.	•Self-Knowledge •Life Roles
Learns about the importance of growth and change.	Understands the impact of growth and development.	•Self-Knowledge
Learns about the benefits of educational achievement to career opportunities.	Understands the relationship between educational achievement and career planning	•Educational Development
Understands the relationship between work and learning.	Understands the need for positive attitudes toward work and learning.	•Educational Development
Acquires skills to locate, understand, and use career information.	Acquires skills to locate, evaluate, and interpret career information.	•Career Planning
Learns about skills necessary to seek and obtain jobs.	Acquires skills to prepare to obtain, maintain, and change jobs.	•Career Planning
Understands how work relates to the needs and functions of the economy and society.	Understands how societal needs and functions influence the nature and structure of work.	•Educational Development
Acquires skills to make decisions.	Acquires skills to make decisions.	•Self-Knowledge •Educational Development •Career Planning
Learns how life roles are related to each other.	Understands the interrelationship of life roles.	•Life Roles
Learns about different occupations and changing male/female roles.	Understands the continuous changes in male/female roles.	•Life Roles
Understands the process of career planning.	Acquires skills in career planning.	•Career Planning

Promotion of Nontraditional Training and Employment

What is Nontraditional Training and Employment?

Nontraditional training and employment concerns occupations or fields of work (including careers in computer science, technology, and other emerging high-skill occupations) in which individuals from **one gender** comprise less than 25 percent of all employees in the occupation or field.

A Change in Focus: Gender Equity to Nontraditional Training and Employment

Funding for Technology/Career Education programs and services (including Career Centers and Career Connection programs) is provided by the Carl Perkins federal legislation. The new federal legislation, known as Perkins III, includes as one of its core indicators the “Promotion of Nontraditional Training and Employment.” The previous legislation, known as Perkins II, called for “Gender Equity.” Under Perkins II, Georgia chose to address gender equity through the development of Career Centers and Career Connection programs. School systems submitted proposals to receive grant monies to start/maintain Career Centers and Career Connection programs. While no grants for Career Centers or Career Connection programs are provided under the Perkins III legislation, local school systems may want to start/improve Career Centers and Career Connection programs to address the promotion of nontraditional training and employment, a core indicator in the new legislation. The Perkins III legislation allows local school systems to use a portion of their allocation for Career Centers and/or Career Connections programs if they have met the eight required uses of the funds. The illustration below may help to further explain the shift from a focus on gender equity to a focus on nontraditional training and employment.

Comparison of Perkins III to Perkins II: Focus of Career Guidance Services

1998 Act (Perkins III) →→ →→→→ →→→→ →→ Promotion of nontraditional training and employment.

1990 Act (Perkins II) →→ →→→→ →→→→ →→ Gender equity.

Nontraditional training and employment is the end result of gender equity.

Comparison of Perkins III to Perkins II: Funding

1998 Act (Perkins III) →→ →→→→ →→→→ →→ Promotion of nontraditional training and employment costs handled with the school system’s Perkins III dollars.

1990 Act (Perkins II) →→ →→→→ →→→→ →→ Gender equity addressed with funds earmarked (grants) for Career Connection programs and Career Centers.

Guidance counselors, Career Center coordinators, and Career Connection teachers should talk with their school system's Technology/Career Education (Vocational) director if they have questions about starting/improving Career Centers and/or Career Connection programs as a means of addressing the promotion of nontraditional training and employment indicator, required by the new federal legislation.

Major Benefits of Promoting Nontraditional Training and Employment

By promoting nontraditional training and employment through career guidance activities and counseling, individuals are encouraged to make educational and career choices according to their interests and abilities and to choose careers that lead to economic self-sufficiency. A fundamental principle within this career guidance component is learning about career opportunities that are not considered traditional to one's gender. Especially for women, these occupations have salary ranges that provide better than adequate living wages for themselves and their families.

Nontraditional careers for females are those that require strong math and/or science skills. These include technological careers such as electronics, mechanical design, automotive mechanics, chemical or nuclear engineering, aviation, and the professional trades.

Nontraditional careers for males are those that require strong nurturing, caring, and/or administrative-assistant skills. These include nursing; community health; physical therapy; early childhood education; legal, executive, and medical secretarial occupations; office supervision, and management.

The objectives of nontraditional training and employment activities in career development are:

- To expand self-concepts of all students.
- To identify students' interests, values, and experiences.
- To identify students' cultural expectations and stereotypes.
- To apply strategies that reduce gender bias in nontraditional occupations.
- To explore the impact of math and science on future career opportunities, especially for young women.
- To explore a wide range of career options, mainly focusing on nontraditional careers.

Other Important Benefits of Promoting Nontraditional Training and Employment

- Technology/Career Education's curriculum and image are strengthened.
- Curriculum is strengthened for all students by questioning assumptions and traditional teaching methods and by updating as needed. The image is strengthened by actualizing a commitment to serve all students.
- Effect of declining course enrollments may be reduced.
- Previously declining enrollments may rise as a result of recruiting female students and increasing dual enrollments.
- Poverty may be reduced and tax revenues may increase as people obtain higher paying jobs and the cycles of unemployment, underemployment, and welfare dependency are broken.

- Family units may be strengthened by minimizing economic strain, training people for flexibility, increasing the father's interactions with children, and increasing the respect for and dignity of the work of the family.
- New industry can be attracted by ensuring a skilled and diverse workforce. Worker productivity can be increased by improved matching of individuals with jobs, by minimizing tense work environments, by increasing new and innovative solutions to work-related problems, and by increasing job satisfaction.

Integration of Nontraditional Training and Employment

Societal changes over the past 15 years have brought a new awareness of the need to expand opportunities for women and minorities. Gender equity received a big boost with the passage of the Education Amendments of 1972 and the Women's Educational Equity Act. Several legislative and private initiatives gave impetus to the creation of hundreds of programs in schools, colleges, and communities to reduce bias and expand options for girls and women (McCune & Matthews, 1978). These efforts have been complemented in recent years by a few programs that address new options for boys and men. As a result of the gender equity information included in the previous Career Guidance Toolbox, guidance counselors, Career Center directors, and Career Connection teachers have made a conscious effort to incorporate gender equity information into their career-guidance activities and counseling sessions. The purpose of this section is to focus on the promotion of nontraditional training and employment that results from gender equity.

Counselors' Role in Nontraditional Training and Employment

There seems to be agreement that counselors should play a major role in helping to remove barriers and create options for both genders and that nonsexist counseling is essential for optimal growth of students. Yet it is clearly not the role of counselors alone. Indeed, all types of educators, especially those in Technology/Career Education, must collaborate with counselors to ensure that the scope of all students is broadened in relation to careers.

Progress in Nontraditional Training and Employment

One of the first initiatives to link career development, gender-role stereotyping, and social change and to emphasize changes in roles of both women and men (Hansen, 1981) was a project titled BORN FREE (Build Options, Reassess Norm, Free Roles Through Educational Equity). This project is a multimedia training program for counselors and educators working with children, youth, and adults. While interest grew in gender equity throughout the 1970s, by the 1980s, a call for new school reform efforts totally ignored gender-equity issues. In 1990 federal legislation brought gender equity to the forefront, where it remains today in the new federal legislation's emphasis on promotion of nontraditional training and employment. While much progress has been made, the problem is far from resolved. Although the interventions of the past decade doubtless have had an impact on gender equity (and program evaluations and statistics attest to this), abundant evidence indicates that the impact of socialization on gender-role attitude is deep-seated between attitudes and reality. The educational expertise of counselors will be needed to help change these attitudes, since attitudes do not change simply because the legislation changes.

Current Realities

Unquestionably, new options have opened up for women and the equity gap has begun to narrow in secondary school subjects, in higher education access, and in the workforce (NACWEP, 1988). Problems nonetheless remain, especially for girls and women who are minorities, poor, disabled, and/or outside the opportunity structure. Studies have shown that young people's career choices still reflect stereotypical views of what is appropriate for their gender, although they may know a wide range of choices is open to them.

Guidance counselors are in a position to provide students with realistic information concerning future life and career-role options and to help them with adequate preparation for these future roles. In order to effect real changes, counselors must take a proactive approach in the following areas:

- Examine their own attitudes and practices to assure that they have eliminated the subtle as well as blatant attitudes and stereotypes regarding both genders.
- Ensure that new knowledge about the changing roles of women and men, work/family intersection, stereotyping and socialization, and gender equity are a visible part of curriculum and programs.
- Influence career-guidance programs to better integrate life planning, educational planning, and career planning.
- Develop strategies that will impart to administrators, teachers, and especially to students that they can be positive agents for change by forming more egalitarian relationships between women and men.

It is also essential for counselors to possess accurate information on important societal trends. (See the statistical information about women and men's roles in the home and workplace included in Section H: Additional Resources—Equity PowerPoint Presentation.)

Counselor Resources

Below is a list of resources (included in the section) that counselors may find helpful in working with students and faculty in relation to promoting nontraditional training and employment and gender equity.

- **Some Nontraditional Job Opportunities for Women**
- **Nontraditional Careers: Tips for Recruitment and Retention**

- **Information Sheet on Gender Equity for Teaching Staff**
- **Negative Effects of Gender-Role Stereotyping on Males and Females**
- **Gender Communication Quiz**
- **Eliminating Gender-Biased Language**

Resource Documents

- Broverman, I.K., D. M. Broverman, F. E. Clarkson, P. S. Rosenkrantz, and S. Vogel. "Sex Role Stereotypes and Clinical Judgments of Mental Health." *Journal of Consulting and Clinical Psychology* 38 (1970): 1-7.
- Gallup, G. "Career Development: Achievements and Challenges." Speech delivered at the National Career Development Association Conference, Orlando, Fla., January 1988.
- Hansen, L.S. *Eliminating Sex Stereotyping in Schools: A Regional Guide for Educators in North America and Western Europe*. Paris: United Nations Educational, Scientific, and Cultural Organization, 1984.
- Hansen, L.S. (1981). "BORN FREE: Career Development, Sex Roles, and Social Change." *IAEVG Bulletin, Proceedings of 10th World Congress* (September, 1980): 13-24.
- Hedin, D.I., J. Erickson, P. I. Simon, and J. Walker, J. *Minnesota Youth Poll: Aspirations, Future Plans and Expectations of Minnesota Youth*. St. Paul, Minn.: Center for Youth Development and Research, University of Minnesota, 1985.
- Herzog, A.R., and J. G. Bachman. Executive summary of *Sex Role Attitudes among High School Seniors: Views about Work and Family Roles*. Ann Arbor: University of Michigan, Institute for Social Research, 1982.
- Klein, S. *Handbook for Achieving Sex Equity through Education*. Baltimore, Md.: Johns Hopkins University Press, 1985.
- McCune, S.D., and M. Matthews. *Implementing Title IX and Attaining Sex Equity: A Workshop Package for Elementary-Secondary and Postsecondary Educators*. Washington, D.C.: Council of Chief State School Officers, DHEW/OE, 1978.
- National Advisory Council for Women's Educational Programs (NACWEP). *Options and Decisions in Women's Educational Equity*. Washington, D.C.: National Advisory Council on Women's Educational Programs, 1988.
- O'Malley, K.M., and S. Richardson. (1985). "Sex Bias in Counseling: Have Things Changed?" *Journal of Counseling and Development* 63 (1985): 294-98.
- Sadker, M.P., and D. M. Sadker. *Sex Equity Handbook for Schools*. New York: Longman, 1982.
- . *Failing and Fairness: How America Cheats Girls*. New York: Macmillan, 1994.

Sunny Hansen, Professor, Educational Psychology, University of Minnesota, Minneapolis, 1988.
 Deb Harless, Doctoral Student Educational Psychology, University of Minnesota, Minneapolis.

This publication was prepared with funding from the Office of Educational Research and Improvement, U.S. Department of Education, under contract no. R188062011. The opinions expressed in this report do not necessarily reflect the positions or policies of OEFI or the Department of Education.

Some Nontraditional Job Opportunities for Women

Professional

Engineering
Law
Medicine
Science
Mathematics
Geology
Environmental Science
Architecture
Landscape Design
Forestry
Geography
Anthropology
Foreign Service
Journalism
Psychology
Educational
Research/Administrative
Accounting
Protective Services
(Fire/Police)

Training Programs

Auto Mechanic
Aircraft Mechanic
TV and Radio Repair
Electronics
Machinist
Replacement Parts Mgmt.
Welding
Drafting Technician
Surveying
Mechanical Engineering
Technician
Forestry Technician
Chemical Technician

Technical

Airline Pilot
Air Traffic Controller
Computer Technician
Computer Programmer
Electronics
Radio/TV
Drafting

Chemical Technician
Medical Technician
Surveyor
Photographer
Engineering Technician

Skilled Crafts/Trades

Telephone Repairer
Office Equip't. Repairer
Shipfitting
Construction
Plumbing
Electrical
Auto Mechanics
Masonry
Carpet Layer

Apprenticeships

Drywall Finisher
Lather
Carpenter
Electrician
Metal Fabricator
Millwright
Plumber/Pipefitter
Bricklayer
Cement Mason
Glazier
Plasterer
Iron Worker
Painter
Heavy Equipment Operator
Tiler
Air Conditioning Mechanic
Meatcutter
Printer
Boiler Maker
Carpet Layer
Welder

Marketing

Commission Sales
Graphics
Advertising
Freight Forwarding

Shipping
Transportation
(Airlines/Trucking)

Other Jobs

Sales: Commissions
(Auto, Insurance, Furniture,
Appliance)
Laboratory Technician
Dental Lab Technician
Driving
(Local, Long-Haul, City
Bus, Taxi, Ambulance,
Commercial Driver)
Furniture Mover
Heavy Equipment
Greenskeeper
Fire Fighter
Fire Watcher
Tree Planter
Park Aide
Meter Reader
Utility-Telephone Installer
Sewage Treatment Operator
Water Treatment Operator
Chemical Plant Operator
Gas Station Attendant
Tire Changer
Parts Runner
Shipping & Receiving Clerk
Mail Deliverer
Office Equipment Repairer
Appliance Repairer
Laborer, Road/Construction
Production Mil Worker
Flag Person
Security Guard
Warehouse Worker
Lumber Yard Attendant
Roofer
Cabinet Maker
Upholsterer
Store Detective
Custodian

Nontraditional Careers: Tips for Recruitment and Retention

Back-to-School Night: Put together a pictorial display for a “Back-to-School Night,” showing projected statistics and facts about careers, especially nontraditional careers.

Contests: Conduct a poster contest (Careers of the Future), an essay contest (Women's Roles in the Technology of the Future), or a cartoon contest (Breaking Tradition). Contact organizations like the Society of Women Engineers and the National Association of Trade and Technical Schools for materials and sponsorship.

Community Organizations: Invite organizations such as the YWCA, YMCA, Girl Scouts, or AAUW to the school. The Girl Scouts’ “From Dreams to Reality” helps middle school students explore different career options.

Individual Counseling: Encourage students to remain enrolled in classes that are new to them. Be understanding of their difficulties but encourage them to persevere. Help them through their anxieties by giving them small, measurable goals. Have them keep a journal of both positive and negative aspect of the course. Use role playing to generate a variety of actions and reactions to stressful situations. Offer to act as an intermediary between students and their parents and teachers. Focus on the pioneering aspect of their choice.

Inservice: Plan a workshop for teachers whose class enrollments are predominately male or female to discuss ways to integrate the classes and share successes, problems, and solutions. Brainstorm new strategies.

Parent Programs: Sponsor a panel of students and workers who have made different choices in school and career; discuss why and how they came to their decisions, and what help they received from their parents. This activity can help parents connect with their children's possible interests. Sponsor a parent-student program with a theme such as Women's Work—Yesterday, Today, and Tomorrow. Work with PTA/PTO organizations.

Role Models: Compile a list of women working successfully in fields that are predominately male. Include women with various educational backgrounds and who are varied in race, age, and life styles. Include graduates of local schools. This list will become a resource file to contact speakers for school programs.

Small Groups: Form small groups of nontraditional course-taking students to meet at lunch time or after school. Led by an adult at first, these groups can deal with such issues as attitudes, decision-making, alternatives, and consequences. Encourage the social aspect of such groups to enhance the supportive function. The small group technique can be effectively used for boys too. Focus on their feelings about working with girls. They should be prepared to work with females as well as for the probability of working for a female boss.

Guest Speakers: Bring in role models to talk about their work. Ask high school seniors to talk to eighth-graders about the advantages of math, science, and vocational classes. Invite students and graduates of regional vocational schools and colleges who are in nontraditional fields to talk about their experiences, what classes they took, what barriers they have encountered, and how they managed to surmount them.

Take Our Daughters To Work™: Now in its third year, the Ms. Foundation for Women program takes place every fourth Thursday in April. First launched in 1993 in response to disturbing research findings on the adolescent development of girls, Take Our Daughters To Work™ is a day to celebrate girls. Around the country, millions of girls between the ages of nine and fifteen will go to work with adult hosts—parents, grandparents, cousins, and friends—to learn first-hand the range of life options while getting the attention they deserve.

From *Futures Unlimited: How to Encourage Girls to Select and to Stay in Nontraditional Courses*, by Charlotte H. Clarke, Consortium for Educational Equity, Rutgers, The State University, New Brunswick, N.J.

Information Sheet on Gender Equity for Teaching Staff

Gender equity is often difficult to picture in action. We can, however, look at equity as it relates to the physical environment, curriculum, language, behavior management, and teacher attention. Listed below are a few thoughts to keep in mind as you work on this issue.

- ❖ Women work for pay for the same reasons that men work for pay: to meet financial responsibilities, to achieve a sense of contribution to society, and to achieve a sense of personal fulfillment.
- ❖ Opportunities for women have been limited by the fact that women have been concentrated in a relatively few, low-paying occupational fields in the labor force. By expanding career choices and emphasizing the reality of job futures, both females and males will approach life work planning more realistically.
- ❖ Take the issue of equity seriously; it affects the classroom climate and the learning that occurs there.
- ❖ Plan your classroom to portray gender fairness. Use posters and other visuals that show both males and females in traditional and nontraditional roles and that show males and females working together.
- ❖ Check learning activities for gender fairness. Also plan lessons that focus on increasing students' equity awareness, knowledge, and skills.
- ❖ Use inclusionary language in both written and oral communication. Encourage students to do the same.
- ❖ Direct class discussions to enable all students to participate. Studies have shown that teachers give more attentions to male students, calling on them more frequently, asking them higher-order questions, offering them more help, and disciplining them more often.
- ❖ Promote cooperation and integration of males and females through activities that help students work together more effectively.
- ❖ Help students understand equity issues and the impact these issues have on their lives.
- ❖ Avoid generalizations and gender stereotypes, i.e., "you drive like a woman."
- ❖ In the classroom, use a variety of examples that portray men and women using a wide range of feelings, interests, skills, and career choices.
- ❖ Encourage both genders to participate in traditional and nontraditional activities.
- ❖ Examine instructional materials for gender-role stereotyping, gender bias, and sexist language. Discuss and point these out to students.

- ❖ Make a conscious effort to assign females and males leadership and support roles on an equitable basis, both within and outside the classroom (i.e., on field trips).

Adapted from *Wisconsin Model for Sex Equity in Career and Vocational Education*, by Barbara A. Bitters and Susan Foxwell, Wisconsin Department of Public Instruction, 1990.

Negative Effects of Gender-Role Stereotyping on Males and Females

Negative Effects on Males

Academic

- ☒ Not usually raised to be quite, passive, or dependent, so adjustment to school, where they have to sit still and keep hands to selves, can be difficult (Center for Sex Equity, 1988).
- ☒ Less socialized to develop listening, communication, and interpersonal skills (Grayson & Martin, 1985).
- ☒ May view quiet activities, such as reading and writing, as feminine and therefore not something at which to excel (PEER, 1981).
- ☒ Criticized by teachers in harsher or angrier tones than females for equivalent actions (Jackson & Lahaderne, 1971).
- ☒ Four times more likely than females to have academic problems (PEER, 1981).
- ☒ Outnumber females in elementary remedial reading programs two to one (PEER, 1981).
- ☒ Over 60 percent more likely than females to be grade repeaters (American University, 1982).
- ☒ More likely to receive lower grades (American University, 1982).

Psychological and Physical

- ☒ Suffer over 98 percent of the major diseases (Farrell, 1986).
- ☒ On average, live 7.8 years less than females (Farrell, 1986).
- ☒ Must often live under relentless pressure to perform (Larrick & Merriam, 1973).
- ☒ Judged a failure if do not achieve status and wealth and work to support a family (Astrachan, 1986).
- ☒ Not supposed to express full range of human emotion, including doubt, need, and grief (PEER, 1981).
- ☒ Supposed to be a successful earner first and a person second (PEER, 1981).
- ☒ Resist treatment during early stages of illness; when hospitalized, stay 15 percent longer than females.
- ☒ Commit suicide three times more often than females (PEER, 1981).

- ☒ Feel pressure against revealing any signs of weakness; rather, must seem tough, cool, and in control (Ohio State University, 1988).
- ☒ Higher rates of alcoholism, drug abuse, heart attacks, strokes, high blood pressure, and other circulatory illnesses (WBVTAE, 1986).
- ☒ Higher rates of men in prisons and juvenile detention centers (WBVTAE, 1986A).
- ☒ More likely to be physically abusive of others (WBVTAE, 1986).
- ☒ Not expected to participate fully in parenting, which can deprive them of the positive rewards of nurturing (Baumgartner-Papageorgiou, 1982).
- ☒ Can feel like status object, valued more for paycheck than for themselves as people.
- ☒ Can feel vulnerable to rejection since supposed to initiate all social contacts with the other gender.
- ☒ Less likely than females to be close friends with one another (American University, 1982).
- ☒ More likely to be victims of accidents related to sports, dangerous vehicles such as motorcycles, and violence (American University, 1982).
- ☒ Can build expectations that are higher than their actual achievement levels; can lead to high levels of anxiety (Gray, 1957).

Careers and Family Relationships

- ☒ Higher trends toward excessive involvement in work (WVBTAE, 1986).
- ☒ After being denied nurturing experiences, may be unfamiliar with how to nurture their own children (Ohio State University, 1988).
- ☒ Encouraged not to enter certain occupations, such as teaching or nursing (American University, 1982).
- ☒ Not encouraged to think of playing an active role in family life.

Negative Effects on Females

Academic

- ☒ Less assertive in the classroom; males call out the answers and get the teacher's attention, while females sit patiently with their hands raised (Sadker & Sadker, 1985).
- ☒ Face more reprimands from teachers for calling out answers than males (Sadker & Sadker, 1985).
- ☒ Teachers more likely to do things for female students, which reinforces dependence; males more likely to get detailed instructions for doing things themselves (Sadker & Sadker, 1985).
- ☒ Females less likely to take math and science courses or participate in special or gifted programs in these areas (Sadker & Sadker, 1985).
- ☒ Females participate less actively in discussions; they do more smiling and gazing and are more often passive bystanders in conversations (Sadker & Sadker, 1985).
- ☒ Whereas males receive feedback for their task performance, females receive feedback related to their appearance (Grayson, 1985).
- ☒ Whereas males receive messages that they can succeed if they exert effort, females receive messages that less is expected and accepted: “you can do it if you try,” versus “well, at least you tried” (Grayson, 1985).
- ☒ As teachers solve problems for female students and do not encourage them to work through a problem, females can develop “learned helplessness” (Grayson, 1985).
- ☒ Females more likely to attribute success to external causes and failure to internal causes; failure seen as insurmountable; “It's just me, I'm not good at this and I can never succeed” versus “If I put in more effort I can succeed” (Fennama, 1985).
- ☒ Teachers interact with males and females differently, more often attributing the failure of boys to lack of effort rather than to lack of ability (Fennama, 1985).
- ☒ Female students receive less encouragement to achieve in the classroom (Baumgartner-Papageorgiou, 1982).
- ☒ The classroom actually spends more time on male learning deficits than on the learning deficits of females; female students are not the primary focus of the energy and resources of the school (Harvey, 1986).
- ☒ Female students get less special intervention on their behalf in the classroom.
- ☒ Even though females start out ahead of males in early grades, achievement test scores of females fall as they reach high school (American University, 1982).

Psychological and Physical

- ☒ Test scores indicate that female students have lower self-esteem and are less likely to feel valued and valuable (Search Institute, 1988).
- ☒ Females use a more tentative style of communication (Sadker & Sadker, 1985).
- ☒ Research indicates that both males and females consider it less desirable to be female (Tavris & Baumgartner, 1983).
- ☒ Females taught that their most valuable asset is their appearance (Baumgartner & Papageorgiou, 1982).
- ☒ Females taught to be dependent, compliant, fearful, inactive, incompetent, and needing help and protection (Baumgartner & Papageorgiou, 1982).
- ☒ Females taught to expect restrictions (Baumgartner & Papageorgiou 1982).
- ☒ By high school, less likely to think can do college work and demonstrate a decline in commitment to employment (American University, 1982).
- ☒ Less money invested by educational institutions in athletics for females (American University, 1982).

Careers and Family Relationships

- ☒ A ten-year study following the lives of 80 high school valedictorians showed that two-thirds of the females began reporting lower levels of intellectual self-esteem and less ambitious career aspirations by the time they were seniors in college (*New York Times*, 1987).
- ☒ Females receive messages that it is best not to work outside the home, but if one does, one should choose from a limited number of less financially rewarding career options (Baumgartner-Papageorgiou, 1982).
- ☒ Females who do work for pay outside the home still do over 70 percent of all home and family work (Cowan 1985-1986).

Gender Communications Quiz

How much do you know about how men and women communicate? If you think a statement is an accurate description of communication patterns, mark it true. If you think it isn't, mark it false.

1. Men talk more than women.
2. Men are more likely to interrupt women than to interrupt other men.
3. During conversations, women spend more time looking at their partner than men do.
4. Nonverbal messages carry more weight than verbal messages.
5. Female managers communicate with more emotional openness and drama than male managers.
6. Men not only control the content of conversations, they also work harder in keeping conversations going.
7. When people hear generic words, such as "mankind" and "he," they respond inclusively, indicating that the terms apply to both sexes.
8. In classroom communications, male students receive more reprimands and criticism.
9. Women are more likely than men to disclose information about intimate personal concerns.
10. Female speakers are more animated in their style than are males.
11. Women use less personal space than men.
12. When a male speaks, he is listened to more carefully than a female speaker, even when she makes the identical presentation.
13. In general, women speak in a more tentative style than do men.
14. Women are more likely to answer questions that are not addressed to them.
15. There is widespread gender segregation in schools, and it hinders effective classroom communication.
16. Female managers are seen by both male and female subordinates as better communicators than male managers.
17. In classroom communications, teachers are more likely to give verbal praise to female than to male students.
18. In general, men smile more often than women.

Explanations of the Answers

1. **True.** Despite the stereotype, the research is consistent and clear. In classrooms, in offices, in group discussions, in two-person conversations, men talk more than their fair share of the time. For example, in one experiment male and female subjects were asked to verbally describe pictures and engravings. The women's average description was approximately three minutes. For a man, the average time was 13 minutes.
2. **True.** When women talk with other women, interruptions are evenly distributed. When men talk with other men, interruptions are evenly distributed. However, when men and women talk with one another, almost all interruptions are by male speakers.

Sociologists Candace West and Donald Zimmerman analyzed conversations in university settings, both on and off campus. They found that males interrupt females much more often than they interrupt other males and more often than females interrupt either males or females. These sociologists think that interrupting is a way of exercising power. They say, "Here we are dealing with a class of speakers, females, whose right to speak appears to be casually infringed upon by males."

3. **True.** Many studies—with subjects ranging from infants to the elderly—have shown that women are more likely than men to look at their partner. One reason may be that men talk more and women listen more. Research shows that a listener of either sex looks more at a speaker than the speaker looks at the listener. Another possible reason why women look more frequently at a partner may be their need for and expertise in decoding nonverbal cues. In a direct staring confrontation, however, women will be more likely to avert their eyes, especially when stared at by men. Frequently, a woman will tilt her head back rather than look directly at a man. Researchers call this a presenting gesture that reflects friendliness and submission.
4. **True.** Nonverbal messages carry over four times the weight of verbal messages. Other research shows that in most two-person conversations, nonverbal messages convey more than 65 percent of the meaning. Women seem to communicate more effectively on this nonverbal channel. They are better than men at decoding nonverbal cues. They are also more likely to reflect their feelings through facial expressions.
5. **False.** Research conducted at a Midwest hospital and in the clerical departments and production lines of manufacturing firms show that both female and male managers score higher than the general population in communicating friendliness and approval to subordinates. Further, women managers are no more emotionally open or dramatic than their male counterparts. Both sexes appear to feel that managers should not demonstrate these characteristics. However, there were some communication differences. Male managers were more dominant in style and more likely to direct the content and flow of the conversation.
6. **False.** While men do exert power and authority in controlling the course of conversations, women exert more effort in maintaining communication. Sociologist Pamela Fishman placed

tape recorders in homes of couples who described themselves as free of traditional sex role stereotypes. Fishman recorded over 50 hours of conversations that occurred naturally. Over 96 percent of the topics men introduced were developed into conversations.

Only 36 percent of the topics women introduced were similarly developed. Women asked more questions and were more willing to develop a topic introduced by men. In contrast, men “killed” conversational topics that women introduced by giving a minimal response, such as “um,” and failing to ask questions or make more extended comments about the topic. In studies of mock jury deliberations, it has been found that women are more likely to make understanding and supportive comments.

7. **False.** Terms such as “mankind,” “man,” and “he” are supposed to be generic and are presumed to include both men and women. Research shows that this isn’t really the case. People are more literal in their thinking. Studies with elementary, secondary, and college students show that when the supposed generic term “man” is used, people envision males, even when the content implies both men and women. In another study, students illustrated supposedly generic references (e.g., urban man) with males pictures more than they did when references were neutral (e.g., urban life). Other researchers found that when male generic nouns and pronouns were used to describe the job of psychologists, females students described the job as less attractive to them than when sex-neutral terms were used. Women who were exposed to the feminine generic (“she” to include everybody) reported feelings of pride, importance, and power. Yet another researcher reports that when an applicant for an executive position was described as a “girl,” subjects rated her as less “tough,” “mature,” “brilliant,” and “dignified,” and they gave her approximately 6 percent less in salary than when the word “woman” was used.
8. **True.** The research is very consistent on this issue. From preschool through high school, male students are more likely than female students to be reprimanded for misbehavior. Some studies say they are eight to ten times as likely to be scolded. Sometimes they get reprimanded more because they are misbehaving more. But other studies show that when females and males are misbehaving equally, the males are still more likely to get scolded and receive harsher penalties.
9. **True.** There is some inconsistency in the research here, but most studies show that women are more likely to reveal personal information about themselves. This pattern may reflect differences in power or status between males and females. For example, in work situations subordinates tend to reveal more personal information about themselves than their superiors reveal to them. The more power a person has, the more personal information he or she is likely to receive.
10. **True.** Female speakers display more animated behavior, including amount and intensity of eye contact, gestures, facial expressions, and body movement. Further, they are more likely to use a wider range of pitch and more variable intonations than male speakers. However, men appear to be more dramatic in their verbal behavior. They are more likely to tell anecdotes and jokes.

11. **True.** Women’s space is far more likely to be intruded on by others. Women are approached more closely than men by both women and men. When women and men approach each other on the street, women are more likely to walk around men or move out of their way. In homes men are more likely to have their room, study, or den—an inviolate area where nothing is to be touched. Women also use space in a more confining way. While men are more likely to sit with arms and legs apart, women cross legs at ankles and sit with hands in their laps, taking up far less space. This reduced control of space or territory is characteristic of those with less power and status.
12. **True.** Both female and male members of audiences pay more attention to male speakers than female speakers. Audience members recall more information from presentations given by males. This appears to occur whether the information is stereotyped as appropriate for males or stereotyped as associated with females. And it occurs even when male and female speakers make an identical presentation.
13. **True.** According to linguist Robin Lakoff, “women’s language” is characterized by certain patterns:
- Making statements that end in a questioning intonation or putting tag questions at the end of declarative sentences (This is a good movie, isn’t it?).
 - Using qualifiers such as “kind of” or “I guess.”
 - Use of “empty adjectives” (divine or lovely) and use of “so” with adjectives (so thoughtful).

While not all studies support Lakoff’s notion of women’s speech, several show that women do express themselves with more diffidence and less assertion than men. Many researchers claim that tentative speech patterns do not characterize the speech of women so much as they characterize the speech of those who lack power. For example, one group of researchers analyzed communication in a police station. They found that both male and female clients who came to the station were more likely to use “women’s language” than were either male or female police personnel. There are consequences to using “women’s language.” Both men and women who speak in a tentative, nonassertive style are less likely to be believed by a jury. In fact, only recently has the British Broadcasting Corporation (BBC) allowed women to read the news over the air because they were perceived to lack credibility or authority.,

14. **False.** Men manage to capture more than their fair share of talk time. Sometimes women actually help men gain this advantage because they are more likely to ask questions while men are more likely to give answers. However, men often take this advantage for themselves by interrupting women and by answering questions that are not addressed to them.
15. **True.** When people hear the word “segregation,” they usually think about racial discrimination. Gender segregation may occur in more subtle ways, but it is widespread. Teachers, or students themselves, frequently form separate boy and girl lines, seating arrangements, work groups, play areas, and even science lab work teams. Even college classrooms display gender segregation in student seating arrangements. Children cross racial

lines more often than gender lines in classroom communication. Some researchers have found that students are often unwilling to work together on science projects. However, teachers can encourage boys and girls to play and work together simply by praising children engaged in cross-gender interaction. An important implication of the research is that when girls and boys work and play together, they are less likely to hold stereotyped attitudes.

16. **True.** Despite the stereotypes, when employees work for a female supervisor, they vote their approval. Female managers are seen as giving more attention to subordinates, as more open to new ideas, and as more supportive of worker effort than male managers. Both female and male subordinates report that morale and job satisfaction are higher when supervised by women. Others report that women are more dependable, show greater concern, and pay better attention to detail. Research on female managers in the business world is related to research in elementary schools. Studies on elementary schools with female principals show that these schools are warmer, more democratic, and are characterized by higher student achievement and higher pupil and parental satisfaction.
17. **False.** Although girls get better grades than boys, they receive less verbal praise from teachers. When girls do get praise from teachers, it is likely to be for neatness and appearance. (“That’s an attractive paper.” “You have very neat handwriting.”) In contrast, when boys get praise, it is more likely to be for the intellectual quality of their ideas. Not only do teachers praise boys more, but they also criticize them more, ask them more questions, and give them more attention in general.
18. **False.** Women are far more likely to smile than men. They do this in many different social situations, even though they are not necessarily happy or amused. In one field study, researchers smiled at approximately 150 males and 150 females in public. In general, women returned the smiles more often than men. Women returned the smiles to men 93 percent of the time and to other women 86 percent of the time. Males smiled back at women 67 percent of the time, and they returned smiles to men 58 percent of the time.

From Myra Sadker and Joyce Kaser, *The Communications Gender Gap*, Mid-Atlantic Center for Sex Equity, 5010 Wisconsin Avenue, N.W., Suite 308, Washington, D.C. 20016, 1984.

Eliminating Gender-Biased Language

What is Gender-Biased Language?

Gender bias (discrimination by members of one gender against the other, especially by males against females) is built into English. Rules of grammar dictate that we use masculine pronouns (he, his, him, himself) whenever a singular referent is required and we don't know the gender of the person we're talking about. The word "man" in our language denotes both the human species as a whole and those members who are male. In fact, words and phrases containing the term "man" are so common as to effectively exclude half of society from consideration:

- One man, one vote.
- The man on the street.
- Our man in the home office.
- A man of the people.
- Workmen's compensation.
- The leading man in the field.
- The working man.
- Congressman, chairman, policeman, fireman, newsman, clergyman, postman, mailman, businessman.

Although one can argue that the use of a masculine pronoun or the word "man" in many contexts is not meant to exclude women, the use of "man" and "he" in the generic sense is likely to be misinterpreted because those words are so often used to signify the so-called male qualities specifically. Eliminating the possibility of misinterpretation is certainly a better way of handling the communication problem.

Precision in what we write and edit begins with an awareness of the gender biases that exist in English as it is commonly used. Ideally, gender-biased words and implications will stand out immediately to the sensitive editor/writer.

Guidelines for Eliminating Gender-Biased Language

Don't use masculine pronouns (he, his, him, himself) generically. Use such a word to refer to a specific man. Instead:

1. Use plural pronouns.

Biased: A student is responsible for his own schedule.

Recast: Students are responsible for their own schedules.

2. Rewrite the sentence to eliminate pronouns.

Biased: A business executive plans his speeches carefully as he knows his words will be carefully noted by subordinates.

Recast: A business executive plans speeches carefully, knowing they will be carefully noted by subordinates.

3. Use the genderless “one,” “person,” and “individual.”

Biased: A summer intern is enthusiastic. He appreciates the importance of work experience.

Recast: A summer intern is enthusiastic, a person who appreciates the importance of work experience.

4. Use the indefinite article “the” when a possessive pronoun is needed.

Biased: An employee regards his performance review with some trepidation.

Recast: An employee regards the performance review with some trepidation.

5. When a pronoun is required, use the all-inclusive “he or she” or “her or him.” When you use this construction, use the alphabetical arrangement.

Biased: A public servant has a large responsibility to his constituents. He must keep himself fully informed.

Recast: A public servant has a large responsibility to constituents. He or she must keep fully informed.

Wherever possible, use substitutions for words that begin or end with “man.”

Chairman	chairperson, chair, presiding officer, head
Manpower	workforce, workers, employees, human power, human energy
Workman	worker
Businessman	business person, business executive, business managers
Real estate man	realtor, real estate agent
Insurance man	insurance agent
Statesman	leader, public servant
Mankind	humanity, human race, human beings, people
Salesman	salesperson, sales worker, sales representative, sales clerk
Congressman	member of Congress, representative
Foreman	supervisor
Craftsman	craftsperson
Fireman	firefighter
Mailman	mailcarrier, letter carrier
Cameraman	camera operator

Tech Prep

Purpose

Tech Prep in Georgia provides a student with an individualized program of study that includes integration of academic and technical curriculum. The program gives students the opportunity to connect classroom learning with realistic applications through applied instruction.

The new Carl D. Perkins legislation defines Tech Prep as a program of study that:

- Combines a minimum of two years of secondary education with a minimum of two years of postsecondary education in a nonduplicative, sequential course of study.
- Integrates academic and vocational-technical instruction and utilizes work-based and work-site learning when appropriate and available.
- Provides technical preparation in career fields such as engineering technology, applied science, agriculture, health occupations, business, applied economics, or a mechanical, industrial, or practical trade or art.
- Builds student competence in mathematics, science, oral and written communications, economics, and workplace skills developed through applied learning, contextual academics, and integrated instruction in a coherent sequence of courses.
- Leads to an associate or baccalaureate degree or a postsecondary certificate in a specific career field.
- Leads to placement in appropriate employment or to further education.

Goals

Tech Prep is designed to benefit students through:

- Technical preparation in high-skill, high-wage occupations.
- Individualized career programs of study with sequenced secondary and postsecondary courses.
- Integration of academic and career competencies to make learning relevant.
- Seamless educational curriculum based on statewide and locally articulated programs of study to avoid duplication and loss of credit.
- School-based learning activities combined with opportunities for work-based learning.
- Involvement of parents, students, employers, and the community in curriculum planning.
- Development of a workforce with technological expertise and academic preparation.
- Economic growth and development for local communities in Georgia.
- Multiple educational options and career exit points into employment.

Key Practices

- Tech Prep Consortia: Beginning in the 1999-2000 school year, 37 Tech Prep consortia, structured around Georgia's technical institutes, were implemented to enhance technical education at the secondary and postsecondary levels. These 37 consortia also have Tech Prep coordinators to assist local schools, technical institutes, and the community with the further implementation of Tech Prep. Each consortium has a coordinating committee, made up of 50 percent secondary representatives, 25 percent postsecondary representatives, and 25 percent employer and community representatives.

- **Statewide Articulation:** The Georgia Department of Education (GDOE) and the Georgia Department of Technical and Adult Education (GDTAE) have developed statewide articulation in five program areas. Statewide articulation will enable a student who meets requirements for advance credit in articulated courses in a program to receive credit in any technical institute in Georgia upon validation by that institute. At present (1999), the five programs and courses articulated statewide are: English (1 course); Mathematics (5 courses); Business and Office Technology (5 courses); Marketing (2 courses); and Health Occupations (2 courses). These programs and courses do not preclude any local articulation agreements that a school/school system may have in place. In addition, the GDTAE board has adopted a policy stating that any local articulation agreement will be honored at any technical institute in the state, pending validation of credit. Validation at the technical institute is determined at the institute level.

The Role Of Guidance

The counselor possesses unique skills and knowledge that can help in implementing Tech Prep. As an advocate for the student, the counselor is not a “recruiter” for any single program but rather an “informer of options.” The counselor is responsible for informing students about a variety of academic and career options available during and after high school. Tech Prep is a viable option for a large number of students.

Counselors, educators, and parents often encourage students to pursue a bachelor's degree because they mistakenly believe it is the exclusive degree of rigor and excellence. Fundamental changes have occurred in the workplace, however, as a result of technology, new management practices, and the kinds of skills and education that promising careers now require. The careers in technical fields for which associate degree programs prepare students can no longer be considered less desirable than those requiring a four-year bachelor's degree. By the year 2000 technical education will practically be a requirement for career success.

Associate degree programs offered by technical or community colleges and apprenticeships provide excellent educational and career opportunities. An associate degree may now lead to the Bachelor of Applied Science Degree (BAS) offered at several universities in Georgia.

Applied academics, contextual learning, and the sequencing of courses serve as the foundation of Tech Prep. Counselors can be involved in the curriculum component of Tech Prep in the following ways:

1. Counselors should serve on consortium and local Tech Prep committees to keep informed about local and statewide initiatives and activities. They should be represented on committees that deal with strategic planning and the overall mission of Tech Prep and have a voice on issues that affect the learning, personal/social, and career/vocational/technical needs of students.
2. Counselors must understand and facilitate student acquisition and application of basic skills such as reading, writing, mathematics, science, communications, critical thinking, problem solving, and teamwork. New curriculum content and design require integration of academic,

technical, and communication skills. Courses and experiences are being structured to encompass these areas with new and creative delivery systems.

3. Counselors must be informed about the content of applied courses. They must understand that the content of applied courses is rigorous and not a watered-down curriculum. School districts may develop their own applied courses or may purchase commercially prepared materials. New communication and mathematics courses have recently been developed to assist in preparing students for applied academics.
4. Counselors must know about articulation agreements between institutions and the options they provide so that they can advise students of their full range of choices. Statewide articulation programs and courses within the programs have been adopted in addition to local articulation agreements between schools/districts in several discipline areas; some Tech Prep consortia may have articulated entire programs (e.g., nursing, agriculture, biotechnology). An articulation agreement includes discipline-specific competencies that are commonly shared by courses offered at the secondary and postsecondary levels.
5. Counselors must understand the sequencing of courses between secondary and postsecondary. Career maps or programs of study are being designed in local consortia to show the preferred sequence of courses that high school students should take to prepare for a technical career.
6. Counselors must understand available work-based learning options, skills needed in the workplace, and the appropriate circumstances for student enrollment in a work-based learning experience. Work-based learning can take the form of job shadowing, internships, cooperative education, school-based enterprises, and apprenticeship. In many cases, these options are incorporated within a program of study.
7. Counselors must understand the collaboration needed between secondary and postsecondary education to create a seamless education for students. Collaboration between secondary and postsecondary student services personnel and counselors helps counselors understand the seamless education process in Georgia. The BAS degree offers an example: Students take courses at the secondary level, articulate courses and/or enroll in at least a diploma program at a technical institute to take the technical core, and then transfer the technical core to a university that offers the BAS, where they take the academic core and ultimately earn a bachelor's degree.

For more information, contact Mr. Stan McCallar, Georgia Department of Education, 1752 Twin Towers East, Atlanta, Georgia 30334, phone: (404) 657-2531, e-mail: smccalla@doe.k12.ga.us or Dr. Barbara Wilkie, Department of Technical and Adult Education, 1800 Century Place, NE, Atlanta, Georgia 30345, phone: (404) 679-1677, e-mail: bwilkie@dtae.org.

Georgia's Youth Apprenticeship Program

Purpose

Youth Apprenticeship addresses the dual goal of preparing students for the world of work and providing Georgia with a highly skilled, technologically competitive workforce through a coordinated effort involving business and industry. A student participating in Youth Apprenticeship receives an education that is both academically challenging and relevant to employment in today's economy. The program offers a structured combination of school-based and work-based learning linked to postsecondary instructional programs.

Georgia has allocated state grants to establish Youth Apprenticeship programs in local school systems, area consortia, and regional education service agencies (RESAs). In FY 1999 there were 74 Youth Apprenticeship programs, serving 148 school systems in Georgia.

Goals

The Youth Apprenticeship program enables a student to receive:

- A high school diploma.
- A postsecondary certificate or degree.
- Certification of industry-recognized competencies applicable to employment in today's economy.

Key Practices

Essential components of Georgia's Youth Apprenticeship program are:

- A partnership structure encompassing schools, postsecondary institutions, employers, labor organizations, and community representatives. Employers and industry associations play a vital role in defining appropriate standards of performance, providing structured work-based learning, assessing student achievement, and awarding a credential that recognizes a student's mastery of skills.
- The award of a portable, industry-recognized skills certificate to students who successfully complete the program.
- Integration of work-based and school-based learning. Work-based learning includes the development of a detailed training plan between employer and apprentice, identifying specific tasks that will develop workplace competency; a minimum of 2,000 hours of on-the-job training, with earnings based on a progressive wage schedule established by the participating employer; workplace mentoring; and instruction in general workplace competencies as well as in all aspects of a chosen industry. School-based learning includes a minimum of 144 classroom hours of related academic instruction and training; selection of a career major by the 11th grade; periodic evaluations; and on-going guidance.
- Provision of opportunities for students to complete a career major.

For more information, contact Mr. Jimmy Hogg, Georgia Department of Education, 1752 Twin Towers East, Atlanta, Georgia 30334, phone: (404) 657-8317, e-mail: jhogg@doe.k12.ga.us or Mr. Stan McCallar, Georgia Department of Education, 1752 Twin Towers East, Atlanta, Georgia 30334, phone: (404) 657-2531, e-mail: smccalla@doe.k12.ga.us.

High Schools That Work

Purpose

High Schools That Work is an educational model founded on the belief that students in career/vocational programs of study can master complex academic and technical concepts if schools create an environment that encourages them to succeed. High Schools That Work initiatives focus on changes within the existing school organization and instructional processes that upgrade the content of technical and academic instruction and hold students and the school to higher levels of performance.

Goals

High Schools That Work initiatives seek to:

- Increase to the national level student achievement in mathematics, science, communication, problem-solving, technical studies, and the application of learning.
- Blend the essential content of traditional college preparatory studies in mathematics, science, and language arts with quality career and technical studies by creating conditions that support local school leaders, teachers, and counselors in carrying out High Schools That Work key practices.

Key Practices

- Higher Expectations—Set higher expectations and get students to meet them.
- Career Studies—Emphasize using high-level mathematics, science, language arts, and problem-solving skills in the workplace and in preparation for continued learning.
- Academic Studies—Emphasize teaching essential concepts from the college preparatory curriculum through the functional and applied process.
- Program of Study—Require students to complete a challenging program of study with an upgraded academic core and a career major, including at least four years of college preparatory English and three years of mathematics and science (includes at least four Carnegie units in a career major and two units in related technical courses).
- Work-Based Learning—Provide a structured system of work-based and high-level school-based learning collaboratively planned by the school, postsecondary institutions, and employers.
- Teachers Working Together—Include an organizational structure and schedule that allows academic and career/vocational teachers sufficient time to plan and provide integrated instruction.
- Guidance—Involve each student and his/her parent(s) in a career guidance and advisement system aimed at ensuring the completion of an accelerated program of study.
- Extra Help—Provide a structured system of extra help to enable students to successfully complete an accelerated program of study that includes high-level academic content.
- Keeping Score—Use student assessment and program evaluation data to continuously improve curriculum, instruction, school climate, organization, and management.

The Role Of Guidance

Guidance services open windows of opportunity for all students and plays a vital role in encouraging students to pursue an accelerated program of study that prepares them for the workplace and further study. Guidance helps students identify their career interests and aptitudes; the educational and career options available to them; and ways to make decisions based on a reasoned process. Students need assistance in selecting curricular and noncurricular experiences as well as experiences outside high school that demonstrate the importance of mastering complex academic and technical content. They also need help in choosing an area of concentration for grades 11, 12, and beyond.

Middle and high schools can develop systems of home-school collaboration in which parents become partners in the education of their children. Each eighth-grade student completes a six-year program of study plan in conjunction with a teacher or counselor and the student's parents. Students, parents, and professional staff members review the plan annually and make revisions if the student's goals change.

For more information, contact Mr. Don Hogan, Georgia Department of Education, 1752 Twin Towers East, Atlanta, Georgia 30334, phone: (404) 657-6845, e-mail: dhogan@doe.k12.ga.us.

Career Connection Programs

Purpose

Career Connection seeks to provide a comprehensive, developmental career exploration and planning experience for students in grades 6-8. Career Connection offers students and their parents a program that emphasizes informed decision-making for educational and career planning. The program encourages students to develop self-knowledge and self-confidence; to explore the world of careers undeterred by stereotyping, bias, and discrimination; and, as a result, to feel comfortable considering nontraditional educational and career opportunities.

Goals

Career Connection helps students to:

- Recognize their aptitudes and interests and identify a broad range of career choices and life roles through which these abilities and preferences may be developed.
- Recognize the relevance of education to present and future goals.
- Use their parents as a resource for understanding themselves and making decisions about education and careers.
- Explore nontraditional as well as traditional career opportunities.
- Value work for its economic, social, and personal rewards.
- Demonstrate the skills and attitudes needed to obtain and keep a job.
- Understand the importance of the work ethic in job success.
- Analyze the concept of communication as a basic job skill.
- Develop effective interpersonal communication and team member skills.

Description Of Program

Students mature at different rates, and timely career information can help motivate them to stay in school and plan their educational options. Based on these principles, Career Connection was designed to teach and reinforce appropriate skills and concepts at each grade level as described below.

Grade 6 – Career Self-Awareness: Assists students in understanding the relationship between self-understanding and life/career satisfaction. Includes the relationship of school subjects and activities to careers, the basic skills needed to explore careers, and basic communication skills for success at school and work. Applies guidance activities, cooperative learning, contact with community resources, and parent involvement as instructional strategies. May be presented in six-, nine-, or twelve-week time frames.

Grade 7 – Career Research Skills: Prepares students to identify and employ multimedia information resources to explore careers. Includes instruction in assessment of personal characteristics, thinking about various life and work roles, and developing constructive communication and interpersonal skills. Applies guidance activities, classroom and community research, and parent involvement as instructional strategies. May be presented in six-, nine-, or twelve-week time frames.

Grade 8 – *Career Decision Making*: Prepares students to use decision-making skills for intermediate educational choices (i.e., four-year plans for high school) and tentative choices about long-range educational and career goals. Includes analyzing personal development changes, identifying the structure of the world of work, practicing effective communication and interpersonal skills, and investigating high school programs of study. Applies guidance activities, research in the classroom and community, and parent involvement as instructional strategies. May be presented in six-, nine-, or twelve-week time frames.

Key Practices

Career Connection is designed to:

- Be developmental in nature.
- Be conducted as an instructional course or series of instructional courses rather than as an advisement process.
- Be based on an approved curriculum guide to ensure that all career exploration and planning components are addressed.
- Cultivate parents or guardians as vital resources in the student’s understanding of self, education and career options, and the world of work.
- Cultivate business and industry as vital resources in curriculum planning and program implementation.
- Instill in students the concept of lifelong learning and exploration in the area of career development.
- Recognize the different maturity rates of students and the motivational value of timely career information. In keeping with this approach, Career Connection provides grade-appropriate skill and knowledge development, focusing on career awareness in grade 6, career research skills in grade 7, and career decision-making in grade 8.

For more information, contact Ms. Linda Smith, Georgia Department of Education, 1770 Twin Towers East, Atlanta, Georgia 30334, phone: (404) 657-6588, e-mail: lismith@doe.k12.ga.us.

Career Centers

Purpose

Career Centers are designed to assist students in setting educational and career goals. Career Centers allow students to take advantage of educational and career resources that increase their career awareness and help them explore career options and make appropriate educational plans for high school and beyond.

Goals

As a result of using Career Center resources and participating in Career Center activities, students are able to:

- Identify their personal interests and abilities and understand how these factors affect career choices.
- Explore job titles, availability, location, and requirements in their interest and ability areas.
- Understand the benefits, working conditions, and opportunities for advancement in various careers.
- Access the most current career information through on-line resources such as the Georgia Career Information System (GCIS).
- Realize that career choices should be based on one's interests, abilities, and aptitudes, not on gender.
- Broaden their perspective of available career fields as a result of considering nontraditional training and employment.
- Investigate job opportunities available upon completion of Technology/Career Education programs.
- Investigate and select career focus areas in preparation for future employment.
- Develop a high school program of study to assist in achieving their career goals.
- Determine the type of postsecondary education needed to attain their career goals.
- Learn to make informed educational choices based on self-knowledge, career development, and career guidance.

Key Practices

The resources available in Career Centers can benefit counselors, parents, teachers, and the community at large. Counselors can learn about and keep abreast of career trends; emerging high-tech, high-skill jobs; skills desired by employers; and other valuable information. Parents are encouraged to use Career Centers with their children in order to be more aware of workforce and workplace changes projected for the twenty-first century and to better assist their children in making critical educational and career decisions. Teachers, who often serve as career advisors to students either formally or informally, can obtain current career information to assist them in this role. Career Centers also provide for on-site referrals. Some schools choose to open their Career Centers to the community.

For more information, contact Ms. Linda Smith, Georgia Department of Education, 1770 Twin Towers East, Atlanta, Georgia 30334, phone: (404) 657-6588, e-mail: lismith@doe.k12.ga.us.

Business & Information Technology Program Area

Purpose

Business and Information Technology programs are designed to prepare students for a wide variety of business and information technology career opportunities after graduation from high school or a post-secondary institution. In Business and Information Technology students can study accounting, business administration, financial services, office systems and support services, interactive media, networking, programming and software development, and user support and services.

Goals

The goals of Business and Information Technology are to enable students to:

- Demonstrate the interpersonal, teamwork and leadership skills needed to succeed in a business setting.
- Develop career awareness and preparation in business and information technology so that they can make viable career choices in a variety of business and information technology careers.
- Develop knowledge and understanding in selecting post-secondary options.
- Become economically and technologically trained.
- Develop entrepreneurial skills.
- Develop the ability to participate in business in both domestic and international settings.
- Manage information from all areas of business in making informed decisions.

Programs of Study

BUSINESS

Accounting

Business Administration

Financial Services

Office Systems and Support Services

INFORMATION TECHNOLOGY

Interactive Media

Networking

Programming and Software Development

User Support and Services

Key Practices

Increased business partnerships are providing new curriculum direction, setting higher expectations for student achievement, and strengthening the industry certification process for Business and Information Technology. Business and information technology educators are collaborating with other disciplines to broaden student opportunities to acquire the knowledge and skills required to succeed in business and information technology careers. Through participation in the Future Business Leaders of America (FBLA) student organization, students can apply the knowledge they acquire in the classroom and develop leadership and competitive skills. Through the Cooperative Business Education (CBE) work-based learning program, students have the opportunity to reinforce classroom learning through experience in the business world.

For more information contact Ms. Cynthia Greene, Georgia Department of Education, 1752 Twin Towers East, Atlanta, GA 30334, phone: (404) 657-8307, e-mail: cygreene@doe.k12.ga.us.

Family and Consumer Sciences Education Program Area

Purpose

The discipline of Family and Consumer Sciences has as its central focus preparing individuals to become independent, to assume family roles, to contribute to the good of the community and society, and to transfer personal skills to the workplace

Goals

Essential success for all students includes the acquisition of problem solving, decision-making, higher-order thinking, communication, literacy, and numerical skills in applied contexts. Today's students will be future members and leaders of tomorrow's families, workplaces and communities. All students need to be able to act responsibly and productively, to synthesize knowledge from multiple sources, to work cooperatively, and to apply the highest standards in all aspects of their lives. Family and Consumer Sciences Education provides the bridges needed by all students to deal with major societal issues such as child and elder care, family and community violence and crime, health care, technology usage, and economics and politics. Family and Consumer Sciences Education through attention to such issues serves to bring these issues into action-oriented educational programs. The Family and Consumer Sciences Education program act as a foundation for students to move into the future by gaining the knowledge and skills needed for successfully living and working in the 21st century.

Instructional Programs

Early Childhood Education
Wellness and Nutrition
Consumer Services
Elder Care

Professional Foods
Social Services
Interior Design
Foundations of Family and Consumer Services

Key Practices

The idea that all aspects of life may be reduced to tasks—make a garment, prepare food, iron a shirt, clean a house—has been replaced by an emphasis on social structures, knowledge of relationships, economic and societal changes, and the achievement of mutual goals. This change is reflected in the decision this discipline has made to change its name to Family and Consumer Sciences. The name change has been made to communicate the transition this field has made and to focus on the vision for the future.

Educational reform and new directions in the FACS program have led to these developments:

- *student-centered curriculum with emphasis on hands-on involvement.
- *focus on practical problem solving skills using real-life applications
- *activities that aid students in planning the transition from school to career
- *increased involvement in developing basic academic educational goals for all learners
- *activities that build leadership skills for use in family, workplace, and community settings.
- *learning environments that meet the developmental needs of students

For more information, contact Dr. Sally Combs, Georgia Department of Education, 1770 Twin Towers East, Atlanta, Georgia 30334, (404) 463-6406, or e-mail: scombs@doe.k12.ga.us.

Healthcare Science Technology Education Program Area

Purpose

The purpose of secondary Healthcare Science Technology Education (HSTE) is to prepare students to successfully transition into society as active citizens. HSTE provides students with opportunities to develop knowledge, skills, and attitudes that facilitate a smooth transition into an entry-level career, postsecondary education, and lifelong learning.

Goals

The major goals of the HSTE programs are to:

- Introduce students into the various health industry careers.
- Apply academic foundations in hands-on learning situations.
- Provide opportunities to master competencies required in the health care industry.
- Develop critical thinking, goal setting, and problem-solving skills.
- Develop attitudes consistent with those expected in the health care industry.
- Increase awareness and knowledge of technology in the health care industry.
- Prepare students for entry-level careers in the health care industry.
- Prepare students for successful transition to postsecondary education.
- Equip students with the skills to become successful lifelong learners.

Instructional Programs

Foundations of Healthcare: Science Technology
Responder, Nursing Assistant
Pharmacy Technologies
Medical Records

Emergency Medical Services: First
Medical Laboratory Technologies
Sports Medicine

Healthcare Science Technology Education is a network of students, parents, community members, and teachers working together to prepare students for work in a rapidly changing health care industry. This network will enable students to successfully transition from school to work. Integrated academics are an essential element of HSTE. Classroom and laboratory instruction is enriched by the clinical experience opportunities for HSTE students. HSTE is dedicated to the needs of all students on an individualized basis. Through this approach, students are better equipped to cope with a rapidly changing, highly technological health care industry and be successful lifelong learners.

Key Practices

The program certification initiative encourages program improvement and provides industry validation of programs that meet established levels of proficiency. Industry certification involves an extensive series of activities requiring school administrative support, teacher participation, and industry input.

For more information, contact Mrs. Regina St. George, Georgia Department of Education, 1770 Twin Towers East, Atlanta, Georgia 30334, phone: (404) 463-6404, e-mail: rstgeorg@doe.k12.ga.us.

Marketing Education Program Area

Purpose

The Marketing Education Program is designed to prepare students for postsecondary education and careers in marketing, management and entrepreneurship. Students develop knowledge and skills in the foundational areas of marketing (economics, human relations and business basics) and the functional areas of marketing (product and service planning, marketing-information management, purchasing and pricing, selling and promotion, risk management, financing and distribution/logistics), as well as in international marketing management and entrepreneurship.

Goals

- Develop critical thinking skills in order to make informed decisions.
- Integrate academic skills into the marketing/management curriculum in order to ensure that students develop excellent written and verbal communication skills, computational skills, and scientific problem-solving skills.
- Develop human relations skills and an appreciation for diversity through classroom experiences (such as cooperative learning and simulations), student organizational experiences (DECA competitive events), and work-based learning experiences (co-ops, internships, practicums, shadowing, mentoring, etc.).
- Use technology to gather and present information, solve problems and manage the workflow.
- Demonstrate proficiency in the foundational and functional areas of marketing by applying the knowledge and skills learned through the curriculum, the work-based learning component and the competitive event (DECA activities).
- Manage work by effectively planning, organizing and allocating resources.

Instructional Programs

Marketing Management	Food Marketing, Sales and Distribution
Hotel and Lodging Management	Fashion Marketing
Sports and Entertainment Marketing	Travel and Tourism Management

Key Practices

Stronger business partnerships are providing increased business involvement in curriculum development, higher expectations for student achievement and greater participation in the Industry Certification process. Marketing Education curriculum projects, work-based learning programs and DECA competitive events are providing ample opportunities for students to apply academic skills. Marketing Education teachers are becoming facilitators, and as a result, students are taking charge of their own learning by using technology to research and present topics. More Marketing Education programs are incorporating a school-based enterprise in order for students to run a business in their own schools. DECA, an Association of Marketing Education Students, is increasing the depth and breadth of the competitive events in order to ensure that students use higher-order thinking skills to solve problems.

For more information, contact Linda Smith, Technology/Career Education Division, Georgia Department of Education, 1770 Twin Towers East, Atlanta, Georgia 30334; phone: (404) 657-6588, email address: lismith@doe.k12.ga.us.

Intervention Programs Initiative

Project Success

Project Success provides intervention support services to technology/career students at the ninth- and tenth-grade levels. The program encourages participants to stay in school; increase their expectations, potential, and sense of self-worth; and learn skills needed to be productive workers and useful citizens.

Project Success addresses the following goals:

- Improve the probability that participating students will pass the high school graduation test and end-of-course tests.
- Retain 85-90 percent of students throughout the year.
- Provide appropriate transitional services for program participants.
- Improve student performance.

Coordinated Vocational Academic Education

The Coordinated Vocational Academic Education (CVAE) program provides support and intervention services to disadvantaged and/or limited English-speaking technology/career students who are at risk of dropping out of high school.

The goals of CVAE are to:

- Improve the probability that participating students will pass the high school graduation test and end-of-course tests.
- Raise expectations.
- Increase student motivation and self-esteem.
- Provide support and intervention services so that students can participate equitably in their chosen programs of study.
- Reduce absenteeism and the dropout rate.

Related Vocational Instruction

The purpose of the Related Vocational Instruction (RVI) program is to offer intervention support services to students with disabilities who are enrolled in technology/career classes. The RVI program provides access to the least restrictive environment in technology/career programs; varied instructional strategies; early guidance; vocational assessment; appropriate transitional services; and special support services for students who are mildly intellectually disabled, have emotional and behavioral disorders, are health impaired, and/or have specific learning disabilities.

The goals of RVI include:

- Increase the number of students served in technology/career education.
- Provide the least restrictive environment in technology/career education.
- Improve the student retention rate.
- Provide appropriate school to work transitions.

For more information, contact Mr. Jeff Chandler, Georgia Department of Education, 1752 Twin Towers East, Atlanta, Georgia 30334, phone: (404) 657-8324, e-mail: jchandle@doe.k12.ga.us.

Trade and Industrial Education Program Area

Purpose

Trade and Industrial Education equips students with the knowledge, skills, and attitudes needed for successful employment and further education in the Trade and Industrial field.

Goals

The goals of the Trade and Industrial Education program are to provide:

- Opportunities for an introduction to careers.
- Opportunities for theoretical and practical hands-on learning experiences.
- Opportunities to achieve competency in an occupational program.
- Instruction and practice in decision-making, goal setting, and problem solving.
- Instruction in employability skills and work ethics.
- Integration and reinforcement of academic and technical/career learning experiences.

Instructional Programs

Automotive Service Technology

Construction: Carpentry

Construction: Masonry

Sheet Metal

Heating, Ventilation, Air Conditioning & Refrigeration

Granite Technology

Collision Repair Technology

Manufacturing/Engineering Sciences Technology

Music Marketing and Technology

Diversified Cooperative Education

Public Safety

Graphic Arts Technology

Construction: Electrical

Construction: Plumbing

Welding

Aviation Maintenance Technology

Electronics Technology

Engineering Design and Drawings

Cosmetology

Broadcast and Video Production

Key Practices

The program certification initiative encourages program improvement and provides industry validation of programs that meet established levels of proficiency. Industry certification involves an extensive series of activities requiring school administrative support, teacher participation, and industry input.

For more information, contact Sonny Cannon, Georgia Department of Education, 1752 Twin Towers East, Atlanta, Georgia 30334, phone: (404) 657-8308, e-mail: gcannon@doe.k12.ga.us.

Technology Education Program Area

Purpose

Technology Education develops technological literacy as part of all students' fundamental education through activity-based study of past, present, and future technological systems and their resources, processes, and impact on society.

Goals

The goals of the Technology Education program are to enable students to:

- Explore areas of technology in order to discover their technical abilities and career interests.
- Develop skills in the use of technological tools and systems.
- Apply problem-solving techniques in the search for solutions to technical problems.
- Understand resources, processes, and outputs as they relate to technology and recognize that these elements are common to all technological systems.
- Recognize that technology can have consequences that are desirable, undesirable, expected, or unexpected, and through this awareness, become citizens who can make informed decisions about the uses of technology.
- Synthesize learning of mathematics, science, and social studies concepts through technological activities.
- Acquire broad-based, transferable skills and knowledge that will be useful in future employment, further education, and life experiences.

Program Courses

Secondary Technology Education courses include but are not limited to the following:

<i>Introduction to Technology</i>	<i>Materials and Processes Technology</i>
<i>Production Technology</i>	<i>Communication Technology</i>
<i>Energy and Power Technology</i>	<i>Drafting Technology-Mechanical</i>
<i>Electricity/Electronics Technology</i>	<i>Drafting Technology-Architectural</i>
<i>Research and Development</i>	<i>Graphic Arts Technology</i>
<i>Pre-Engineering Technology</i>	<i>Engineering Applications</i>
<i>Bio-Related Technology</i>	

Middle school Technology Education courses include:

<i>Explorations in Technology</i>	<i>Exploring Manufacturing Technology</i>
<i>Exploring Communication Technology</i>	<i>Exploring Energy and Power Technology</i>

Key Practices

Technology Education utilizes both computer and educational technology in the delivery of content related to systems of communication, energy/power/transportation, production, and biotechnologies.

For more information, contact Mr. Ron Barker, Georgia Department of Education, 1752 Twin Towers East, Atlanta, Georgia 30334, phone: (404) 657-8316, e-mail: rbarker@doe.k12.ga.us.