

What Do Employers Expect...from Today's High School Graduates?

What is today's workplace like and what will it be in the future? What skills will be required? How will people work together? What will be the role of technology? What will be the role of schools? What will we need to know?

The Vermont Business Roundtable thinks it is important to raise these questions with students, parents, educators, government officials, and the business community.

The Vermont Business Roundtable believes these questions are important to all Vermonters. This publication summarizes the state's education goals and describes what students should be able to do in the workforce after meeting these goals. We have included seven employment areas which are important to the Vermont economy now and in the future. Each shows how technology and worldwide competition have raised the skill level required for young people to gain employment. These skills are linked to the expectations for high school graduates that appear in Vermont's *Common Core of Learning*. These expectations or "Vital Results" establish standards which every graduate who plans on being employed must meet.

How Jobs Are Changing

Two terms that we use repeatedly in this publication are "**high tech**" and "**teamwork**." High-tech refers to jobs that rely on new technology such as telecommunications, computer applications, and advanced manufacturing. Telecommunications includes data networks, faxes, electronic mail (e-mail), electronic funds transfers, and satellite communications. For example, when you use the Automated Teller Machine (ATM) at a bank you are using telecommunications. Telecommunications are used by pharmacists to check records, libraries to find books, and cashiers to charge to your VISA or MasterCard. Technology is rapidly changing the workplace and such changes will continue as new technology is developed.

In the past, many jobs did not require teamwork as people could come to work and carry out their particular job at a work station without having to do much with anyone else. The work site of the present and the future is rapidly moving to one where everyone has to work together to get the job done. In teams people need to share skills and training to continually improve the quality and efficiency of the process. It is an integrated process that can only happen if all employees (the engineer, the technician, the designer) work together as a team.

Many companies are changing their structure by placing increased decision-making powers with employees. This requires that employees collaborate to make well thought out decisions not only about their particular work, but about larger, company-wide issues as well. Such teamwork requires good interpersonal skills, strong communications skills, the ability to get along with many different people, and problem-solving skills.

Manufacturing and Production Employment

These high-tech jobs require advanced mathematical skills including statistics, communications skills, problem-solving skills, the ability to work in a team, and some basic physics and chemistry. A high-tech production worker may have to use mathematics to predict and verify, to visually represent manufacturing processes, or to find and communicate patterns. A high-tech production or assembly worker will no longer be manually putting parts together. The worker will more likely be operating a computer a computer console and monitoring the manufacturing process by interpreting data on a computer screen. The worker needs to understand basic statistics, to read and interpret graphs, read and computer ratios, rates, and percentages. This individual must be able to read and write reports and work with spreadsheet and word processing software. Teamwork is vital because the production workers and engineers work together to solve production problems. In the future, there will be an even greater emphasis on statistical processes, teamwork, and problem-solving.

Agriculture Farm-Based Employment

Our small family farms are disappearing. The farms that can survive here and across the nation will be the larger, more mechanized and more technologically advanced farms. This means that the farmer will be doing less work with the animals and less field work; more time will be spent managing employees, making complex financial plans, dealing with labor and environmental regulations. The farm worker will have to read and understand regulatory documents and other technical material, and write clearly. The farm worker will also require higher levels skills in mechanics, electronics, bio-technology applications, mathematics, and animal husbandry. Computation skills will be required to manage data and to interpret that data to make decisions about feed programs, fertilization, environmental concerns, herd management, labor costs, and other aspects of the large dairy farm.

General Office Employment

Today's office worker needs to have keyboarding skills, an understanding of basic computer operations, and the ability to use advanced telecommunications such as modems, cellular technology, fax technology, and voice mail. Word processing skills and knowledge of a variety of software such as spreadsheets, databases, scheduling, project management, and work processing are necessary. The office worker must have the ability to adapt to new technologies. Skills will need to be continually upgraded to keep pace with constant changes. General office employment will require the employee to be able to work collaboratively with others. In the future, the office worker will need to understand complex computer networks, image processing, video communications, and desktop publishing.

Health Care Employment

The rapid increase in the types of procedures and services is having a great impact on medical related employment. For example, advances in technology have resulting in increasing numbers of sophisticated new procedures which require increasingly skilled personnel both to administer and operate. As people live longer and stay in their homes, RNs and other health professionals

will be called upon to provide services at home and in other settings which are now done only in offices or hospitals. These new settings will require more communication with patients, families, and doctors as well as resourcefulness to address the challenges of non-hospital locations. The ability to learn new skills, to solve problems independently and in consultation with others, and a high degree of technical literacy will all be essential in the various allied health care operations.

Technical Service Employment

The days of learning on the job and acquiring skills through tinkering and working on one's own are being replaced by apprenticeships, specialized vocational courses, and post-secondary education. For example, today's auto technician is continually retrained as automobile technology changes. Knowledge of computers, electronics, and sophisticated mechanical systems such as antilock brakes and emission controls are required; the best technicians will need to continually upgrade their skills. Technical service employment increasingly will require communications skills to work with customers and supervisors, diagnostic skills to analyze complex systems, as well as knowledge about electronics, computers, and mechanics.

Customer Relations Employment

Contrast what the cashier in a K-Mart or other large retail store does compared to our local "Mom & Pop" store. In newer and larger stores cashiers are expected to be able to use new technology such as bar code scanners, modems, computers, and high-tech cash registers to process cash, credit, and debit sales. As new technology is constantly being developed, the cashier needs to be able to upgrade his or her skills. Retail service employees provide customer service to a wide variety of people and often solve customer problems and complaints; they need to know where to find the answers. The employee needs communications, problem-solving, and computation skills as well as the ability to be a continual learner. As the technologies and products in stores and other retail businesses become more complex, the salesperson will have to learn new computer skills as well as keep up with changes in produce lines, manufacturer information, and store policies. As credit cards and debit cards increase in use, the retail worker is going to have to be able to deal with electronic funds transfers.

Construction Employment

Changes in regulations, labor laws, and material specifications require high level skills. Workers in construction must be able to interpret detailed blueprints and diagrams, understand and apply complex building codes, zoning regulations, and environmental laws. As more high-tech materials are developed, the construction worker must understand their specifications and applications. A construction project manager must have strong communications skills to work with a variety of people.

Vermont's Education Goals for the Next Century

Vermont developed a *Common Core of Learning* to help assure that young people are prepared with the fundamental skills for successful careers in this changing world. The *Common Core* describes the essential areas of learning and outlines the “Vital Results” that Vermonters want their schools to provide in the four categories of communication, reasoning and problem-solving, personal development, and social responsibility. This publication illustrates the connection between the *Common Core* and employment now and in the future.

VITAL RESULTS

#1 Communication

Each student with a “common core” of knowledge and skills:

- listens to others and discusses what is heard
- investigates and examines the facts of what is read, heard, or watched
- reads job-related manuals as well as literature
- writes clearly for a variety of purposes
- uses computers, telephones, fax machines, modems, and other technology

#2 Reasoning and Problem-Solving

Each student with a “common core” of knowledge and skills:

- asks meaningful questions
- gets the information needed to solve problems
- thinks in new ways about problems
- looks at problems from other points of view

#3 Personal Development

Each student with a “common core” of knowledge and skills:

- has a sense of individual worth and personal competence
- makes healthy and safe choices for self and others
- makes thoughtful decisions based on personal beliefs
- brings a positive attitude to work, family, and community
- demonstrates skills necessary in the workplace

#4 Social Responsibility

Each student with a “common core” of knowledge and skills:

- learns from serving and helping others
- is willing and able to get along with people different from one’s self
- understands the changes that happen to one’s self and in one’s community

- show respect for all forms of life and protects the environment
- understands the importance of work to one's self and one's community

Conclusion

Changes in our education system will enable our young people to make the transition from school to the workforce. Just as important, these changes must prepare our young people to be active, engaged participants in our democratic society. The need for high standards in our schools and high performance from our graduates is even more compelling when we look at the changes they will be facing in society and the workplace.

- The rapid development of technology means that they need to continually develop their skills to be able to use technological innovations in the workplace and in the community.
- An increasingly complex world combined with changing jobs and job requirements means that these students will need to be lifelong learners.
- Communications skills (written, verbal, and symbolic) are increasingly important in all categories of employment and in understanding the global society.
- Reasoning, problem-solving, and critical thinking are skills that must be continually developed in a democratic society where acquiring and using knowledge is central to productivity in the workplace and responsible citizenship.

The Vermont Business Roundtable believes that all students must gain the skills resulting from the implementation of Vermont's *Common Core of Learning*. In addition to helping young people achieve success in the workplace, these skills will enable them to be responsible and informed citizens. The "Vital Results" of the *Common Core* help to establish world-class standards that schools and communities need to address. To assure a successful future, Vermont students must have access to a quality education that enables them to perform as competent, productive, and engaged members of the workforce and of society.