

The 2006 N.C. Skills Market Survey

*Reconnecting Public Education
With Economic Reality*



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In my travels across the state, employers have expressed concerns about the scarcity of skilled labor and the difficulty they have finding qualified employees. For this reason, I wanted to conduct a survey to better gauge the opinions of North Carolina employers on the ability of today's high schools to prepare young people for work, if they are satisfied with the skills of recent high school graduates, and what difficulty they are having finding qualified workers.

The results from the 2006 N.C. Skills Market Survey discussed in this report are not surprising. We have known that our state and nation face a growing shortage of skilled labor because of at least two factors. First, aging baby boomers are beginning to retire, and a low U.S. birth rate means there are fewer workers to replace them. Second, fewer young people are willing to consider skilled trades as a career choice. There also is decreasing support for career education in our public high schools that are almost exclusively focused on higher education. Because of these factors, the shortage of skilled workers in construction, manufacturing and services is growing more severe each year, and unless the trend is reversed, the shortage will grow worse over the next 15 years to 20 years.

While some of the findings do indicate improvement, mostly they tell us we are facing serious challenges. Solving the problem will require multiple solutions, with everyone—education, government, business, parents and students—working together to build a first-rate workforce for North Carolina. The recommendations made in this report are based on the findings from the survey and involve most of the key stakeholders. Most importantly, the survey indicates that business and industry in North Carolina, as well as the education and government systems, have work to do. This report calls for more action on the part of our business community on both a corporate and local level.

The education and skills that our citizens bring to the workplace are our most critical economic development issue. Without an educated and skilled workforce, we will lag behind in our efforts to attract new industry. We risk losing jobs to other states or outsourcing them to other countries with skilled labor available. We also run the risk of our small employers, our best generator of new jobs, going out of business because they do not have the resources to recruit, train and keep skilled workers.

If we want to improve our labor pool, then we need to give the issue much more attention than currently is being given by education, government and our business community. I hope this report helps us move toward closing the skills gap and building a brighter future for our children and grandchildren.



Cherie Berry
N.C. Commissioner of Labor

The purpose of the 2006 N.C. Skills Market Survey was to determine employer opinions on the ability of North Carolina high schools to prepare graduates for work and the status of the state's skills market. A total of 1,411 N.C. employers responded. According to the respondents, most (52.9 percent) entry-level jobs require only a high school diploma. In comparison to a previous survey of N.C. employers in 1989, the percentage of entry-level jobs requiring only a high school diploma has gone virtually unchanged. Moreover, nearly three out of four (73.2 percent) said that their entry-level jobs require a high school diploma or less, and only one out of seven (14.4 percent) require a postsecondary degree.

When N.C. employers were asked if they would hire high school students for part-time work and give them job-specific skills training, nearly two-thirds (62.5 percent) said they are unlikely to do so. While two-thirds are happy with the computer and reading skills of recent high school graduates (65.1 percent and 63.0 percent, respectively), a similar percentage (64.8 percent) is not satisfied with graduates' employability skills, and a majority (51.0 percent) said recent graduates do not have the necessary oral and written communication skills for their entry-level jobs. Also, more N.C. employers are satisfied than dissatisfied with recent high school graduates' math and science skills (46.8 percent and 36.7 percent, respectively). In comparison with previous surveys in 1989 and 1994, N.C. employers seem to indicate there has been an improvement in the academic skills of high school graduates. Yet one-fourth to one-third of employers are still dissatisfied with the reading, science and math skills of graduates (22.3 percent, 26.5 percent and 33.4 percent, respectively). As an overall grade for N.C. high schools ability to prepare graduates for the workforce, nearly one-half of employers (49.6 percent) gave the schools a C and while a quarter either gave an F or D (4.7 percent and 21.0 percent, respectively) or gave an A or B (2.3 percent and 22.4 percent, respectively). Moreover, one-third of N.C. employers (34.2 percent) do not participate in any activities with local schools.

Based on N.C. employers' written comments, they perceive recent high school graduates as immature, disrespectful, irresponsible and unethical. Many recent graduates seem to believe that a job and a paycheck are an entitlement. Employers also describe them as lazy and lacking any discipline, dependability, motivation to work or desire to succeed. Personal appearance, appropriate or professional dress, and hygiene are also problems encountered by employers. Moreover, N.C. employers believe high schools are too focused on preparing graduates for college and believe that not enough emphasis is placed on preparing graduates to go to work.

These results clearly indicate that N.C. employers primarily value work experience and employability skills. Job applicants with prior work experience are more likely to have developed the attitudinal qualities, soft skills and behaviors that employers say they want to see in people applying for their entry-level jobs. Traditionally many high school students develop employability skills by working

“As an electronics manufacturer in northeastern North Carolina, our single biggest challenge is finding and retaining personnel. Our experience is that the lack of technical skills and general employability (work ethic, attendance) are a growing problem. We are struggling with this on a daily basis, and have not yet been able to find a strategy to overcome these obstacles.”
(Manufacturing, 25-49 employees)

part-time jobs after school, on weekends and during summer months. In point of fact, there is good evidence that teenage employment has many beneficial effects including postsecondary educational attainment, even when adolescents have low educational promise upon entry to high school and it confers advantages in the early socioeconomic career.

Yet a declining number of North Carolina's 16- and 17-year-olds are benefiting from the effects of part-time employment. The number of Youth Employment Certificates being issued to the state's 16- and 17-year-olds has dropped appreciatively from 52 percent in 1995 to 28 percent in 2004, nearly a 50 percent drop.

Moreover, N.C. employers are dismayed by the state's skills market. Nearly three out of four N.C. employers (78.5 percent) tell us they have some degree of problem finding qualified help, with little over one-third (36.9 percent) saying it is either a difficult or severe problem. By and large, employers have the most trouble finding skilled/technical labor. They are also pessimistic regarding the future. Most (56.6 percent) believe the problem will get worse, and only 10 percent believe it will get better. The skills shortage appears to be a chronic problem in North Carolina based on prior employer surveys going back to 1989 and 1994. When describing the N.C. skills market, many employers used negative terms such as prehistoric, dismal, poor, deteriorating, very weak, limited, inadequate or losing ground, while only one gave a positive comment.

When rejecting job applicants, N.C. employers are most likely (61.5 percent) to do so for inadequate employability skills, lack of work experience and job-specific skills, poor communication skills, and no prior references. When making hiring decisions, employers tell us the most important factors are job applicants' attitude (69.9 percent), followed by their ability to communicate (44.4 percent) and their appearance (37.2 percent). They are also likelier to hire veterans, women, recent high school graduates and older people, and least likely to hire the disabled and former prison inmates.

Because of the skills scarcity, N.C. employers are likelier (61 percent) to meet their need for qualified workers by hiring people with fewer skills than required for the job and train them. Most employers (53.9 percent) said they are spending more, and most of their training dollars are devoted to training employees in technical and basic skills. However, some of the employers complained that there is not enough unskilled labor that is trainable because of poor skills, difficulty with the English language or substance abuse problems.

Recommendations

Less than six out of 10 students who go to college will earn a baccalaureate degree and less than half entering community colleges return the second year. This signals a "disconnect" between the messages students receive and economic realities. Approximately three out of four jobs currently require a high school diploma or less and that ratio is not expected to change for the next 10 years. As a consequence, high schools will remain the largest supplier of workers for our state's

"The schools need to embrace the technical aspect of instruction better. We need more skilled labor than we need computer operators." (Construction, 10-24 employees)

"It would be helpful to incorporate more technical training and job knowledge for area employability. Most high schoolers do not understand what is required beyond high school to meet the qualifications for certain jobs or what is available in their area." (Government, 500-999 employees)

“I think a lot of people entering the market don't realize the value of practical experience. They have book knowledge, but have never applied it, so are surprised when they get on the job and see what is expected of them.” (Services, 100-249 employees)

“The problems are growing, not getting better. I strongly believe that in order to address these issues it will take a focused partnership of the education system (from kindergarten to high school, as well as the community college system) and the business community to provide a different orientation towards career development and advancement.” (Manufacturing, 25-49 employees)

employers and the more significant educational institution in preparing young people for work. N.C. high schools need to take more seriously the workforce needs and requirements of our state's employers. Consequently:

- Every high school graduate needs to be job-ready, which means that N.C. high schools need to continue improving the basic academic skills of all graduates so that they have an adequate foundation in which to be trained in job specific skills.
- N.C. high schools must reverse the trend of fewer high school students receiving the beneficial effects of work experience by reviving cooperative education and expanding other work-based learning opportunities such as internships, registered apprenticeship and even entrepreneurial opportunities. Moreover, middle schools and high schools need to help students begin thinking about their future occupational goals by exposing them to different occupations through means such as field trips and job shadowing. Parents, who for the most part have one vision for career and financial success which is the attainment of a four-year degree, also need to be exposed to career information and opportunities to help their children make good career choices.
- Our state's retiring baby boomers with knowledge and experience in skilled trades should be enlisted into a volunteer community service organization like Volunteers in Service to America (VISTA) to work with schools to mentor and coach students and teachers.

The best way for N.C. employers to solve their own skills crisis and guarantee that graduates that high school graduates are job-ready is by becoming more involved in local schools. N.C. employers should not expect the school's to take the initiative or bear this responsibility alone. As a result:

- N.C. employers should take leadership in creating viable business-education partnerships organized to improve employment-readiness of high school graduates and have agreed upon benchmarks for accountability. Such partnerships need to be sanctioned by local school boards and the mission clearly defined. At a minimum, partnerships should have employers assist local schools in developing work-relevant curriculums, expose students and parents to career information and opportunities in their local area, and provide work-based learning opportunities for students.
- N.C. employers that hire high school graduates must request high school transcripts and test scores from job applicants to signal the importance of academic achievement.

However, reforming schools will not alone solve the growing skills shortage nor should N.C. employers expect government and education to fix the problem. N.C. employers will have to help themselves. Therefore:

- N.C. employers will need to develop strategies to retain current workers longer by developing employee retention programs and consider such options as offering financial and fringe benefit incentives, flexible retirement options, flexible

“As Baby Boomers retire, we are going to see a big skills gap in the workplace. Young people have a wonderful opportunity to fill that gap, but they MUST have or obtain the necessary skills.”

(Manufacturing, 500-999 employees)

schedules, reduced workloads, shorter workweeks, job sharing and training and education.

- N.C. employers will have to consider tapping potential labor pools that may have gone unnoticed or underutilized before. N.C. employers will need to actively recruit from special populations such as those who have given up on the labor market, women, older people, the disabled and ex-offenders. In some cases, this may require offering incentives such as family-friendly policies to attract stay-at-home parents. In other cases it may require partnering with the N.C. Department of Corrections to prepare inmates returning to society for work or attracting women to nontraditional occupations such as construction. In any case, this will require N.C. employers to think differently about the labor market and how and where they recruit potential workers.

High school students are usually presented with an “either/or” option. In other words, you can choose *either* to go to a postsecondary institution *or* go directly into the workforce. The “either/or” option tends to narrow our vision when it comes to alternate learning paths to higher education and how higher education is defined. Going from high school directly to a two- or four-year college is not the only route, nor is higher education strictly the domain of colleges and universities. A good example of both an alternate route and a different definition of higher education is registered apprenticeship. Registered apprenticeship is a national training program that requires at least 2,000 hours of on-the-job training and 144 hours of related classroom instruction. Currently there are 900 apprentice-able occupations ranging from aircraft mechanics and electricians to personnel systems managers and soil conservation technicians. For this reason:

- N.C. high schools need to begin acting upon registered apprenticeship as an alternate and viable path to higher education. But registered apprenticeship as an alternate path is not possible without the support and buy-in of N.C. employers. Accordingly, not only will current apprenticeship sponsors need to make apprentice opportunities available to high school students, more sponsors will be needed to meet growing demand.

Registered apprenticeship is the best way for employers to ensure that workers are trained the way they want them. Results from satisfaction surveys show that approximately 75 percent of employers that have apprenticeship programs say that the program is either very important or critically important relative to the company’s goals. Results also show that apprenticeship programs reduce turnover and improve productivity, quality workmanship, recruitment, employee problem-solving, employee versatility and skills of employees.

In the end, solving the skills crisis is not the responsibility of a single institution but the responsibility of all, which include schools, government, business and even parents and students themselves. N.C. employers cannot sit idly by and wait upon public schools to change for the better because they are not likely to change upon their own volition. N.C. employers need to be knocking at the school house door and ready and willing to roll-up their sleeves to go to work.

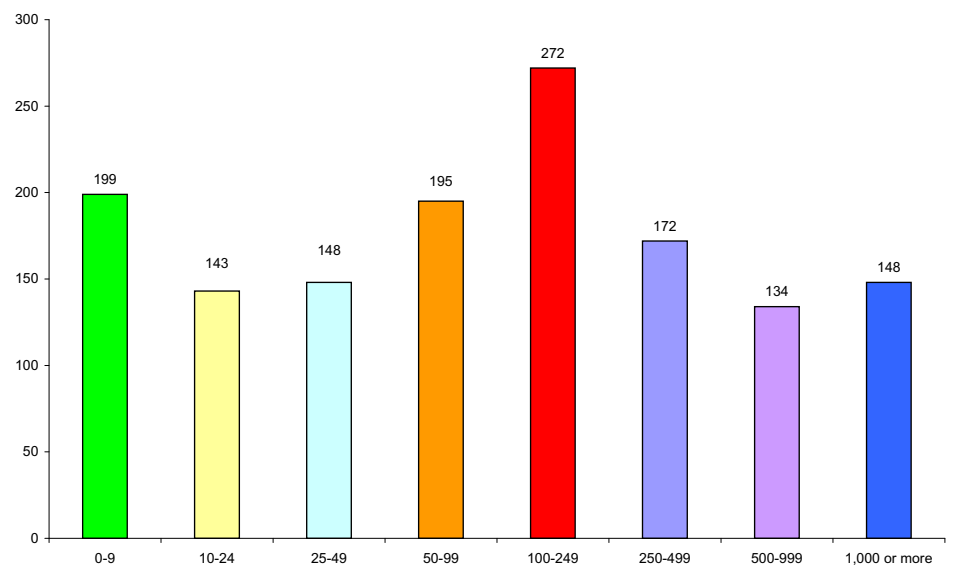
The 2006 N.C. Skills Market Survey asked N.C. employers for their opinions about the job readiness of our state's high school students and graduates and the current status of North Carolina's skills market.

The 5,800 businesses and government agencies that subscribe to the department's electronic bimonthly newsletter, *NC Labor Ledger*, received the survey. Labor Commissioner Cherie Berry sent an e-mail asking each recipient to open the Web-based survey using an Internet browser. Of the 5,800 recipients, 1,411 responded for a completion rate of 24 percent. Although the recipients were not randomly chosen, the number of respondents makes the survey results very significant. The results are also similar to other surveys such as the National Association of Manufacturers' 2005 and 2001 surveys.

Who Are the Employers?

Figure 1 shows the number of employees of the survey respondents. The response according to size was fairly balanced among small, medium and large companies and agencies. The survey respondents by industry sector are shown in Figure 2 and are ranked according to the number of respondents for each sector. The manufacturing sector represents nearly 30 percent of the total respondents, followed by government (16.2 percent), services (14.2 percent), construction (12.9 percent), health care (7.0 percent) and retail (4.3 percent).

Figure 1: Survey Respondents by Number of Employees



Educational Attainment

A majority of employers said that a high school diploma is the highest level of education required for most of their entry-level jobs (see Figure 3). One out of five employers said they either had no educational requirements or required less than a high school diploma. Another 12.4 percent said that they require some education or certification beyond a high school diploma. Only one out of 14 employers said a four-year degree, one out of 20 said a two-year degree, and one out of 42 said a graduate degree was required.

“Generally we seek some experience/post high school education and rarely hire graduates directly from high school. I have great concern with the high school drop out rate. Without a HS diploma we rarely will even consider the application.” (Government, 500-999 employees)

“It seems to me that technology and medicine are fields of emphasis. This area also has employment opportunities in biotechnology. A focus on these areas would seem to increase a person's chance of securing an entry level job while perhaps going to technical school or college.” (Health Care, 50-99 employees)

Figure 2: Survey Respondents by Industry Type

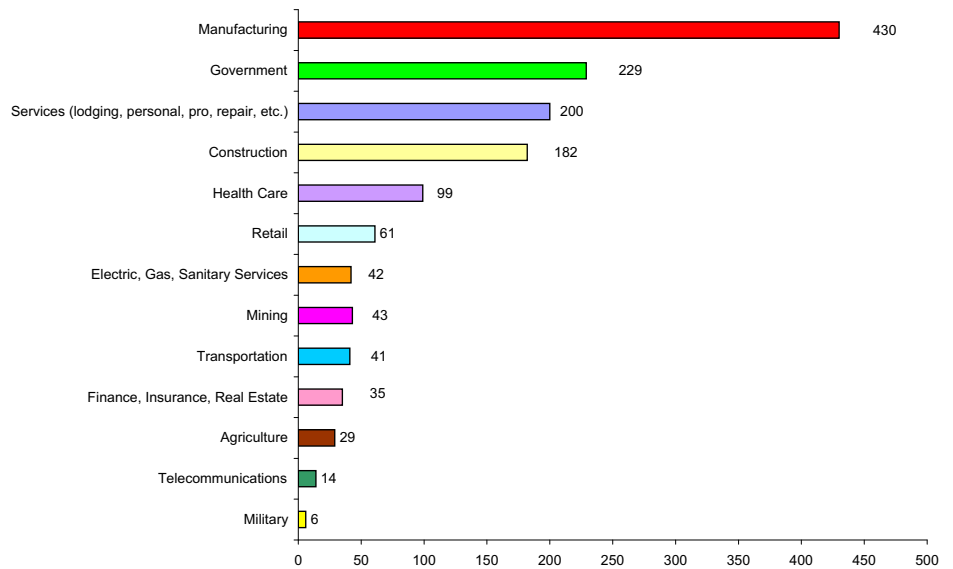
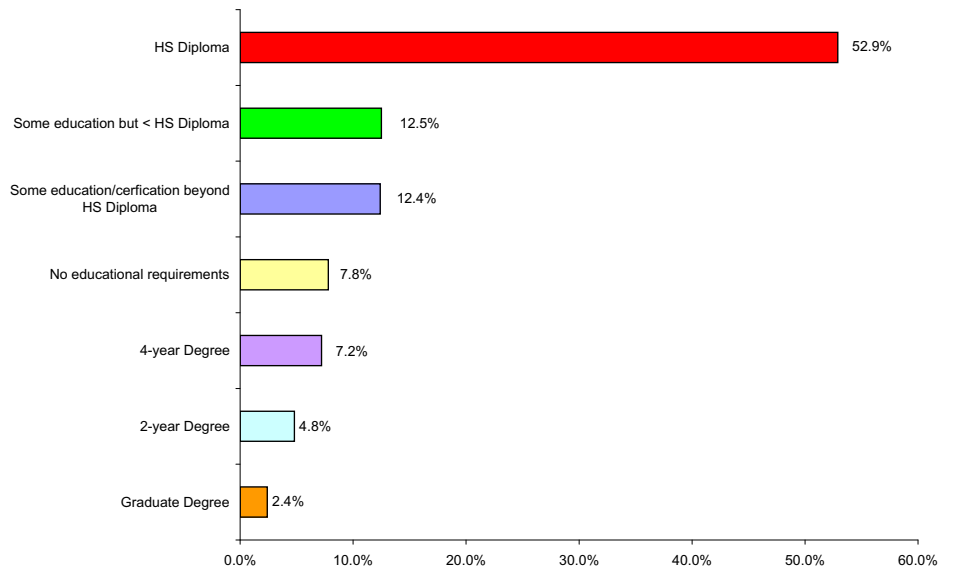


Figure 3: Educational Requirements for Entry-Level Jobs 2006

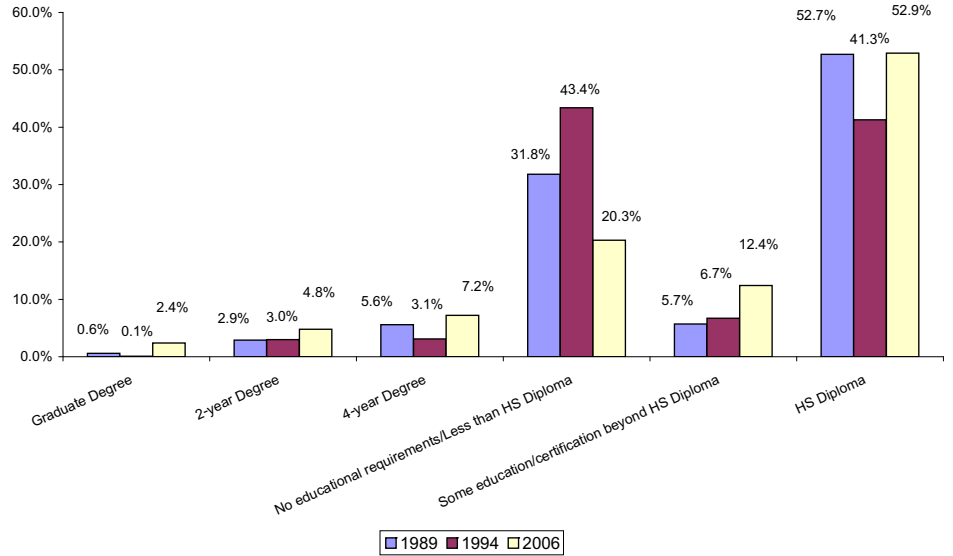


“We do work with our community college for training needs for our entry level jobs. We prefer an Associates degree but will hire someone with experience and no degree, if the experience is relevant. We also do pre-employment skills testing as part of our interview schedule.” (Manufacturing, 25-49 employees)

Two prior scientific studies were conducted among N.C. employers in 1989 and 1994 to determine perceptions about graduates' preparation for the workforce and other labor market issues. Figure 4 compares employer responses from all three surveys. Although there was a drop between 1989 and 1994, the comparison shows that the number of entry-level jobs requiring only a high school diploma has gone virtually unchanged between 1989 and 2006. At the same time, the number of jobs requiring some education or certification has doubled between 1989 and 2006, while those jobs requiring less than a high school diploma have dropped. What is surprising is that the jobs requiring either a two-year, four-year or graduate degree have not significantly changed in the last 17 years. Overall, nearly three out of four entry-level jobs require a high school diploma or less, and only one out of seven require a postsecondary degree.

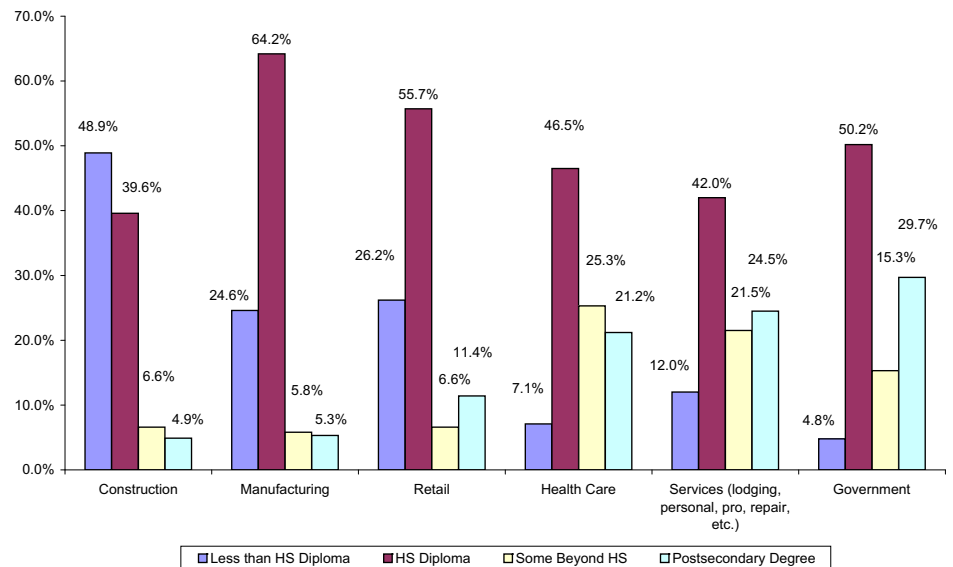
“More time and energy needs to be spent developing a program to train the service providers such as electricians, carpenters, plumbers, heating and air conditioning service technicians and refrigeration contractors and service technicians.” (Construction, 0-9 employees)

Figure 4: Comparison of N.C. Employers' Educational Requirements for Entry-Level Jobs Between 1989, 1994 and 2006 Surveys



There are also notable differences between industries, as seen in Figure 5. Looking at the top six industries with the highest number of survey respondents, almost one-half of all entry-level jobs in construction require less than a high school diploma. For the five remaining industries, a high school diploma is the largest percentage of entry-level jobs. While some education beyond a high school diploma or a post-secondary degree is a significant requirement in government, services and health care sectors, it is less of a requirement in manufacturing, construction and retail. At the same time, higher percentages of entry-level jobs in the manufacturing, construction and retail sectors require less than a high school diploma, while smaller percentages of entry-level jobs in government, services and health care do so.

Figure 5: Educational Requirements for Entry-level Jobs by Industry



“Reading and writing at an acceptable level is a problem for some graduates. No one should graduate from high school without mastering basic skills. Many high school (students) cannot fill out a job application and spell all the words correctly. How can we teach them job skills when they lack the basics?” (Manufacturing, 500-999 employees)

Nearly two-thirds of N.C. employers responding to the survey indicate they are either unlikely or very unlikely to hire high school students and train them in job-specific skills (see Figure 6). Only one-fourth of the employers are likely or very likely to hire high school students and provide them skills training. When considered by industry as shown in Figure 7, retail establishments are likelier (likely and very likely) than any other sector to provide high school students entry-level employment and provide them job-specific skills training. However, a majority of employers for all sectors except retail are unlikely (unlikely and very unlikely) to do so. The ability for many sectors to offer such opportunities to high school students is governed by youth employment laws because many high school students under age 18. Still, it is apparent that others are unwilling to do so because of other concerns.

Figure 6: Likelihood of N.C. Employers Hiring High School Students for Entry-Level Jobs and Providing Job-Specific Skills Training

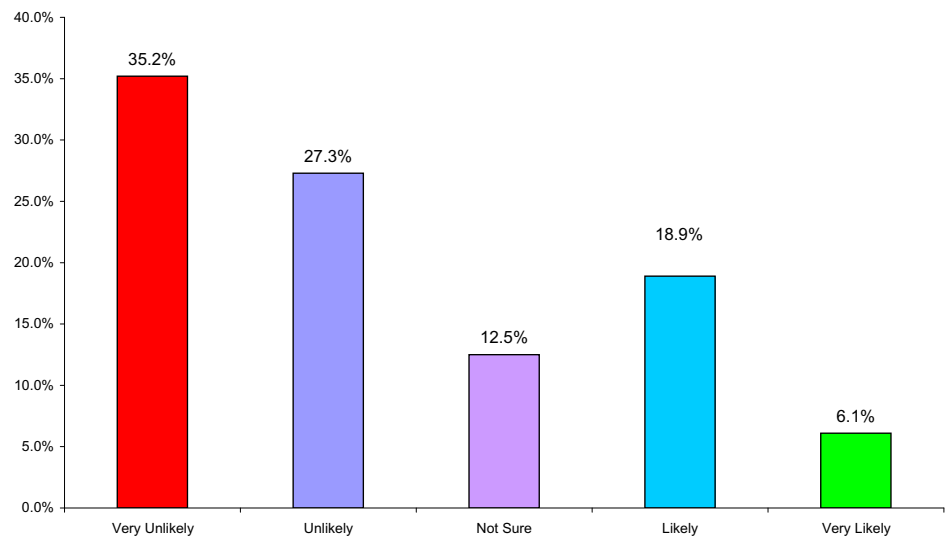
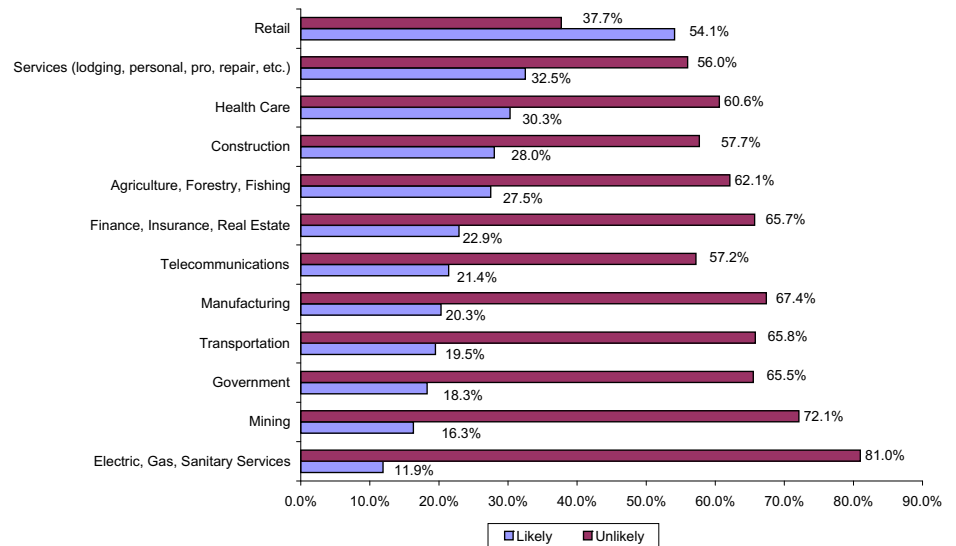


Figure 7: Likelihood of N.C. Employers by Industry Hiring High School Students for Entry-Level Jobs and Providing Job-Specific Skills Training

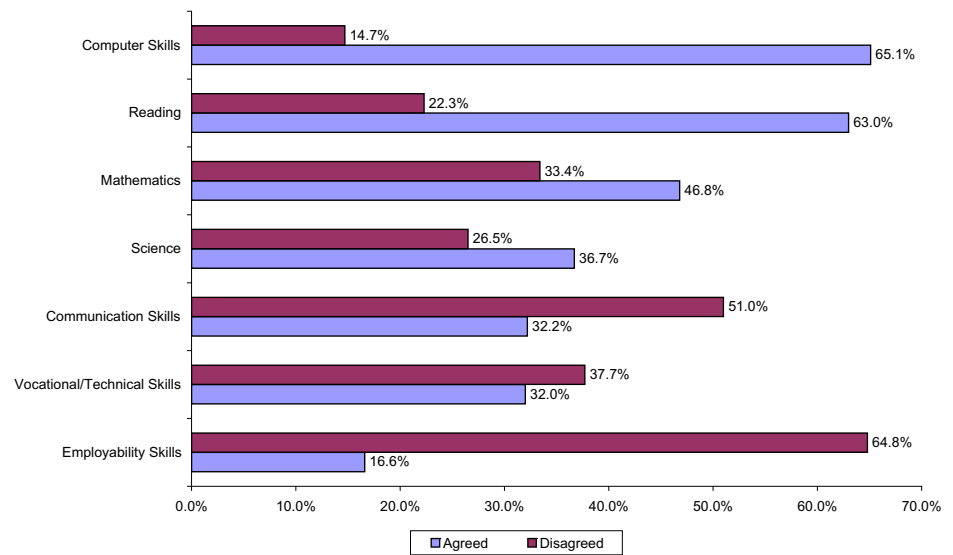


“Majority of 17 to 21 year olds have very poor employability skills. Most are terminated before 3 months for attendance, tardiness or poor work performance.” (Manufacturing, 100-249 employees)

“We have a great need for workers in the construction industry who have above average computer, communication, problem identification & resolution skills, ability to make sound decisions, organizational skills, and the desire to work daily. There are so many mechanically oriented students who could learn these skills in the high school setting.”
(Construction, 10-24 employees)

As shown in Figure 8, when asked if recent high school graduates have the necessary skill level to be trained for their entry-level jobs, about two-thirds of employers said that graduates have the necessary computer skills and reading skills. While more employers agree graduates have the required skill level in mathematics, one-third disagrees. Likewise, roughly one in three agreed graduates have the necessary science skills, while one in four said they do not.

Figure 8: N.C. Employers' Agreement/Disagreement Whether High School Graduates Have Necessary Skill Levels for Entry-Level Jobs



Almost two out of three employers said that recent high school graduates do not have the necessary employability skills such as work ethic, attendance or timeliness, and a bare majority said they don't have the necessary written or oral communication skills. In addition, more employers disagree than agree that graduates have the required vocational and technical skills for their entry-level jobs. Employers in the construction, manufacturing, and electric, gas and sanitary services are likelier to disagree than other industry sectors that graduates have the required vocational and technical skills.

A comparison of the 2006 results with the results from the 1989 and 1994 business and industry surveys shows that employer opinions on the reading, math and computer skills among high school graduates have improved, as indicated in Figure 9. On the other hand, Figure 10 shows that communications skills appear to have stagnated. While oral and written communications were separate values in the 1989 and 1994 surveys, only one-third agreed in all three surveys that oral and written skills were adequate. At the same time, employability skills seem to have worsened. While a direct comparison cannot be made, nearly one-third of the employers (31.6 percent) in 1994 indicated that graduates had the work ethic and four out of 10 (41.7 percent) said they had the personal qualities for their entry-level jobs. In 2006, only 16.6 percent of employers said they had the necessary employability skills that include work ethic and personal qualities such as attitude, appearance, commitment and punctuality.

“I have really been surprised the amount of applicants who apply for jobs that can't either read, write or figure simple math.” (Government, 25-49 employees)

Figure 9: Comparison of N.C. Employers' Agreement That High School Graduates Have Necessary Reading, Math and Computer Skills From 1989, 1994 and 2006 Surveys

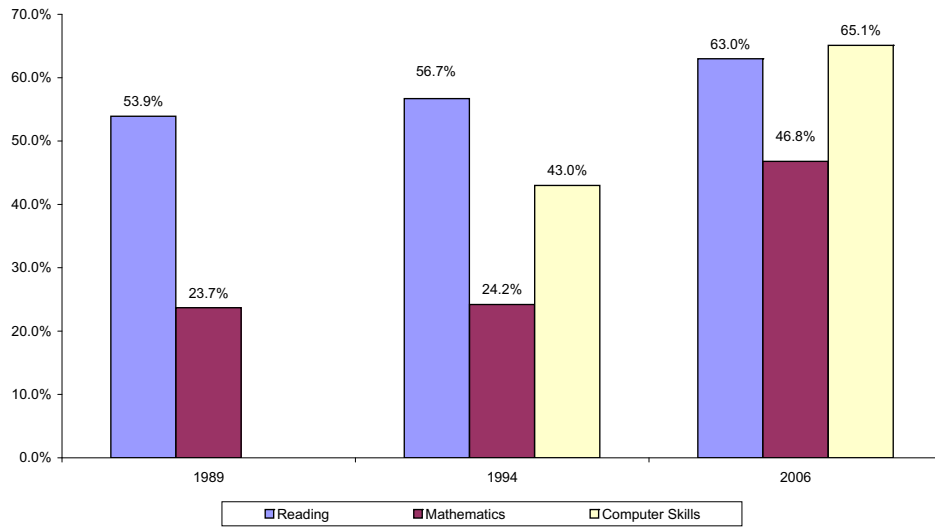
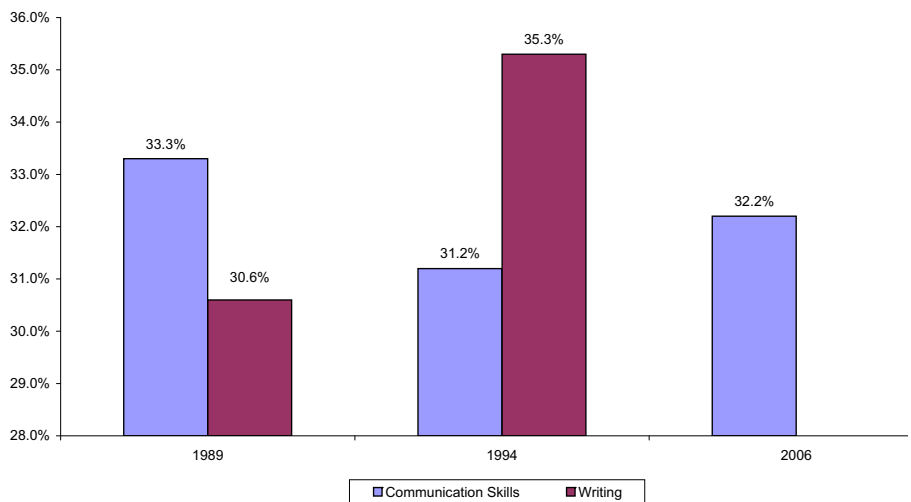


Figure 10: Comparison of N.C. Employers' Agreement That High School Graduates Have Necessary Communication Skills From 1989, 1994 and 2006 Surveys

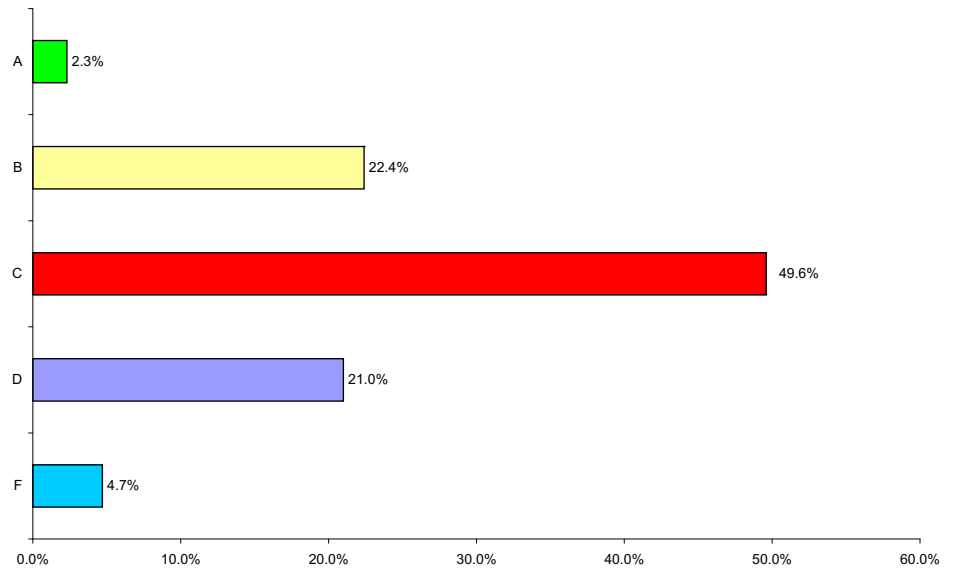


“If you want to go to college, the schools are making the effort to prepare students for this. If you are looking at the graduates prepared for the job market, then they fail!” (Government, 25-49 employees)

One-half of employers gave high schools a C for their ability to prepare young people for their entry-level jobs while a quarter either gave the schools an F or D, or A or B (see Figure 11). This assessment is in line with employers' opinions on the skill-level question above. While more employers agree than disagree that schools are doing an adequate job on academic skills (reading, math and science), more disagree than agree when it comes to employability, communication and vocational skills. This may actually be some improvement over employers' assessment in the 1989 and 1994 business and industry surveys. Among employers, only 29 percent in the 1989 survey and 24.1 percent in the 1994 survey were satisfied with the preparation of N.C. high school students for the workforce, while a majority of employers were dissatisfied (52.7 percent and 55 percent, respectively).

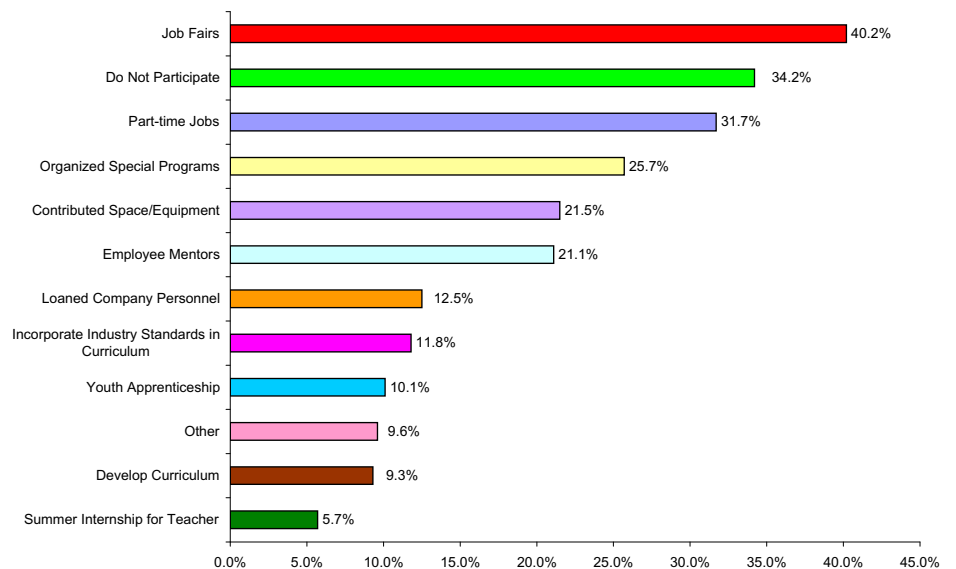
“Graduates are slovenly, non communicative, dress poorly, have attendance problems, and generally have an attitude of entitlement.” (Health Care, 250-499 employees)

Figure 11: N.C. High Schools’ Grade on Job Preparedness



Employers were also asked if they participated with local schools in a number of activities. As Figure 12 indicates, most employers said they participate in job fairs or career days at schools. Moreover, employers are likelier to provide part-time jobs to students, organize special programs or events, contribute space or equipment, and allow employees to mentor students. They are less likely to provide teachers summer internships, work with schools to develop or incorporate industry standards into curriculums, provide apprenticeships to students, and loan company personnel. However, one-third of employers (34 percent) indicate they do not participate in any activities with local schools.

Figure 12: Employer Involvement With N.C. High Schools



Comments

“Most are computer/technologically savvy. Lacking in many is the ability to communicate ... both orally and written. Many are unable to use the English language properly ... that is, use correct verb tense, etc. Unfortunately, work ethic overall seems poor, and as a result attendance, punctuality, business acumen (including judgment and maturity) suffers. Now this is not inherent in EVERY student I've encountered, but unfortunately, this has been my overall impression.” (Health Care, 1,000 or more employees)

“(The high schools) make the assumption that all students should go to college; As a consequence, the business community takes on the responsibility of training new workers in the most basic of work skills to include getting to work on time.” (Manufacturing, 0-9 employees)

“If you want to go to college, the schools are making the effort to prepare students for this. If you are looking at the graduates prepared for the job market, then they fail!” (Government, 50-99 employees)

A total of 498 employers made comments to an open-ended question regarding North Carolina high schools and their graduates. Almost without exception, the written comments are negative, many attributing blame for unprepared graduates to schools and teachers, but also parents and society in general.

Employers were very expressive regarding their dissatisfaction with graduates' employability skills. More often, employers describe recent graduates as immature, disrespectful, irresponsible and unethical. They claim that recent graduates are lazy and lack any discipline, dependability, motivation to work or desire to succeed. Employers said that most recent graduates do not want to work outside or do manual labor, and perceive a job and paycheck as an entitlement. Personal appearance, appropriate or professional dress, and hygiene among high school graduates are also problems encountered by employers.

Communication skills are another problem mentioned frequently. Some employers complained that high school graduates lack the ability to adequately fill out a job application or to handle themselves in an interview.

Moreover, while academic skills may have improved for many recent graduates, it has not improved for all graduates. Some employers bemoaned the lack of adequate reading and math skills or the ability to apply those skills in practical settings.

Many employers said that the problem with graduates is that high schools are too focused on preparing students for college while little, if any, attention is given to those students heading directly to the job market. Some blame the lack of guidance counseling for non-college bound students, while others said that there is a need to encourage students to work part-time or during the summer to gain work experience. Additionally, some employers do not think students are being exposed to opportunities in skilled trades where many jobs are high-paying and offer advancement opportunities. Most decry the deterioration of vocational training in high schools and said educators are out of touch with economic realities.

Some employers also complain that high schools are too focused on teaching students to take tests rather than learning the basics or how to solve problems.

Another issue for employers is an indifferent attitude on the part of some educators. While some employers complain that attempts to contact educators go unheeded, others complain that educators ignore them.

For some employers, community colleges are perceived as finishing the job left incomplete by the high schools and equate an associate degree with what a high school diploma should mean.

However, a few employers do not lay blame upon educators. Some employers point the finger at society, parenting and our culture. Others indicate that teachers spent more time controlling classes than teaching, and high schools are no longer safe places, but plagued by drugs and violence.

“Please stop teaching high school students that manufacturing jobs are a ‘thing of the past.’” (Manufacturing, 100-249 employees)

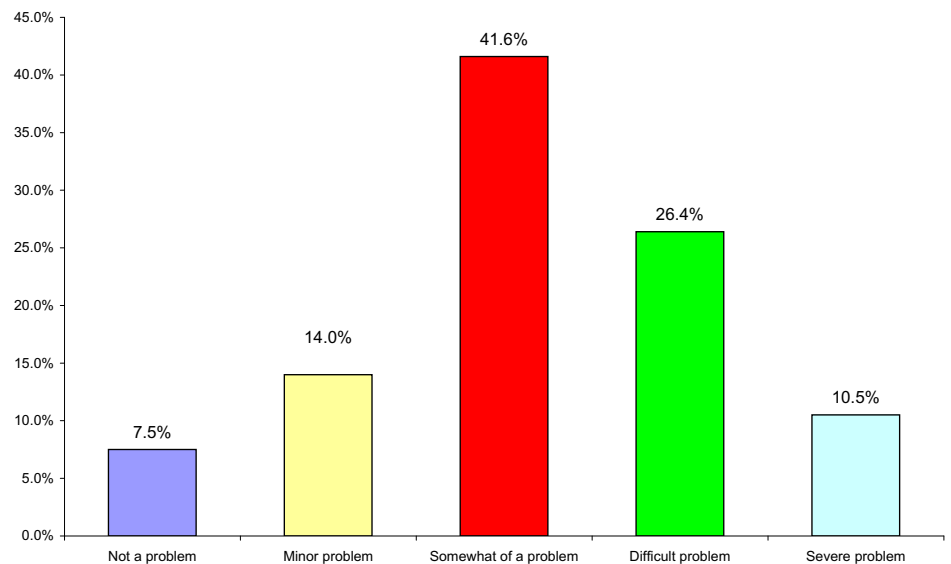
“Trainable unskilled workers are becoming increasingly harder to find. Our entry-level positions do not require prior experience but the individuals must be trainable.” (Health Care, 250-499 employees)

“I contacted the two high schools in my county the week after school was out and left a message for the teacher or counselor assigned to non-college bound or vocational students. We had to entry level positions we needed to fill. The person answering the phone said the person I needed to speak with was still working—but I NEVER HEARD BACK FROM EITHER OF THEM. IF THEY DO NOT CARE ABOUT THESE STUDENTS OR LOCAL EMPLOYERS, WHO WILL?” (Manufacturing, 25-49 employees)

Problems Finding Qualified Job Applicants

As shown in Figure 13, four out of 10 N.C. employers said that finding qualified job applicants is “somewhat of a problem,” while more than one-third said it is either a “difficult problem” or a “severe problem.” Only two out of 10 N.C. employers said it is either “no problem” or a “minor problem.” Finding qualified applicants seems to be a recurring problem for N.C. employers. In the 1989 business and industry survey, more than one-half of the employers (54.4 percent) either said they “always” or “frequently” have problems finding qualified applicants. Employers in the 1994 survey were asked if they had difficulties finding qualified applicants for various types of jobs. When combining those who indicated “always” or “frequently,” the largest dissatisfaction (40.9 percent) was with finding qualified applicants for service jobs. Technical and production jobs were 39.9 percent and 37.9 percent, respectively.

Figure 13: Problem Finding Qualified Job Applicants



As indicated in Figure 14, employers overwhelmingly said they find the fewest qualified applicants for their skilled/technical jobs. When they were asked if the problem finding qualified applicants will get better or worse in the next three years, a majority (56.6 percent) said it would get “worse” or “much worse.” Only one out of 10 are optimistic that it would get “better” or “much better.” (see Figure 15)

Hiring Decisions

Despite employers’ dissatisfaction with the employability skills of recent high school graduates, most indicate their preferred minimum age for hiring entry-level employees is 18- or 19-years-old, as shown in Figure 16. Tellingly, the percentage of employers who said the minimum hiring age is 18 to 19 (52.6 percent) is very close to the percentage (52.9 percent) who said only a high school diploma was required for most of their entry-level jobs.

“As with the rest of the country, North Carolina has a vast shortage of skilled workers.” (Construction, 10-24 employees)

“We need to go back to teaching job skills and STOP TEACHING THE EOG/EOC TEST. The testing has gone too far. Go back to teaching basics and perhaps when these kids graduate they can read a tape measure or have work skills! When the kids get out on their own, the majority seems lost—bosses aren't going to keep giving you a chance to ‘pass’ the task at hand. I've been in the workforce for 25 years and am disturbed by the decreasing number of students that are prepared to enter the workforce upon leaving high school.” (Services, 10-24 employees)

Figure 14: Types of Jobs Experiencing a Short Supply of Qualified Applicants

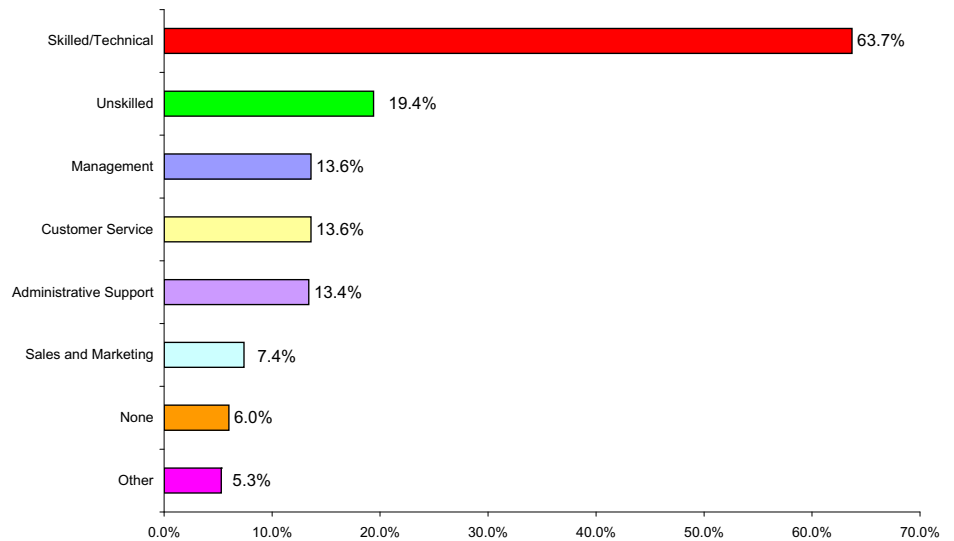


Figure 15: Skills Shortage Will Get Better or Worse?

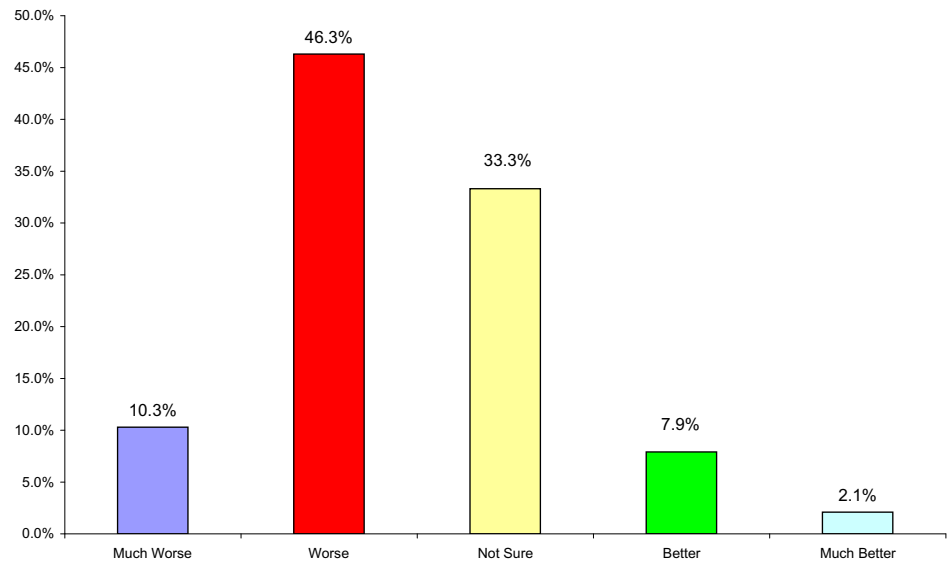


Figure 17 reveals that two out of three N.C. employers said the most common reason for rejecting a job applicant is inadequate employability skills (work ethic, attendance, timeliness, etc.), followed by insufficient work experience, lack of job-specific skills, inadequate communication skills and poor or no references from a previous employer. Academic skills such as reading and math, along with computer skills, ranked at the bottom.

When asked about the importance of certain skills and other factors in making hiring decisions, an applicant’s attitude ranks first among employers, followed by an applicant’s communication skills, appearance, if the applicant has previous work experience and a recommendation from a prior employer. Academic performance or grades and the reputation of an applicant’s school rank at the bottom. Surprisingly, vocational/technical credentials rank near the bottom as well (see

“Something MUST be done or we will have no work force in the future! I have been a Human Resource Director for 28 years and in my tenure, have never seen the work force so deficit in basic needs such as professionalism, dress code, attitude, lack of interviewing skills, etc.” (Services, 25-49 employees)

“Most if not all students or those who have just graduated do not know how to fill out an application, how to dress or how to speak properly. Our policy is that you must be 19 years of age or old to apply.” (Retail, 25-49 employees)

“Would like to see more training in resume preparation, interview skills, work ethics, professional appearance requirements when interviewing, politeness and manners when interviewing as well as working with others as team players.” (Services, 25-49 employees)

Figure 16: Preferred Hiring Age for Entry-Level Positions

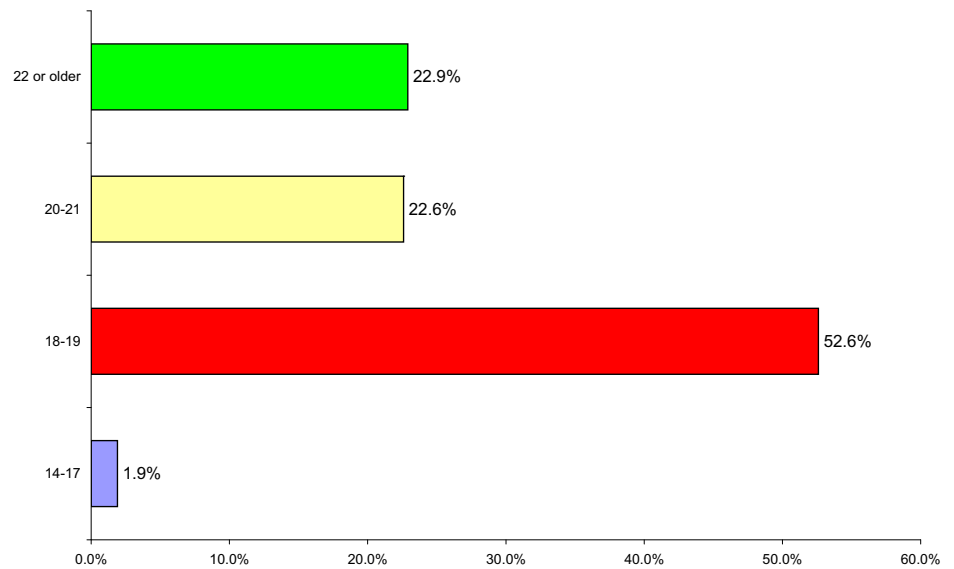


Figure 17: Reasons for Rejecting Job Applicants

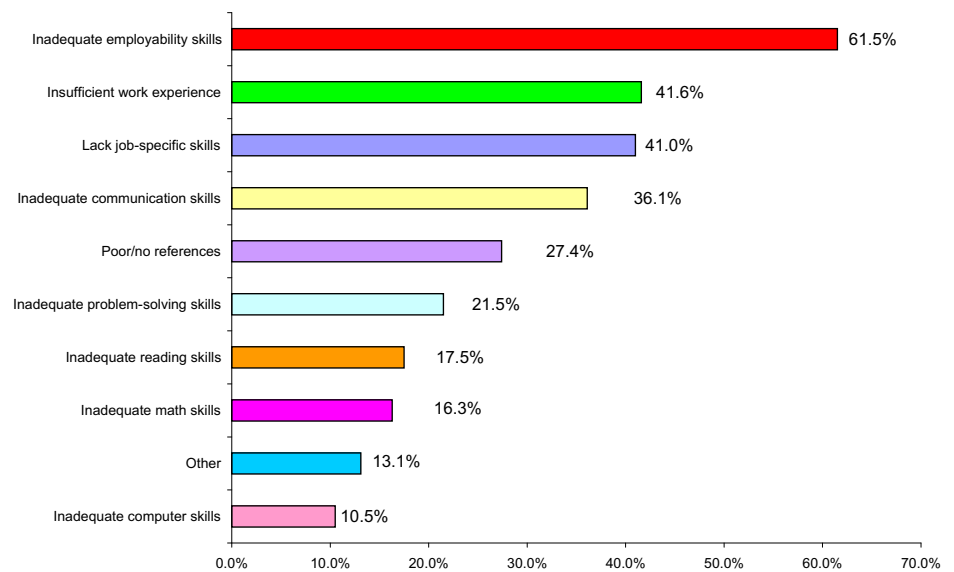


Figure 18). In the 1994 business and industry survey, N.C. employers were asked if they relied on high school records or interviews when hiring prospective applicants. Only 12.4 percent indicated they gave “a great deal” of attention to high school records, while 84.9 percent said that the interview was the deciding factor for hiring.

In meeting their needs for qualified workers, N.C. employers are likelier to hire people with fewer skills than required for the job and then train them (see Figure 19). Most also recruit locally, while almost one in four said they either recruit from their competitors or have to recruit from other states for qualified workers. One in five employers indicate they offer hiring incentives, such as free health insurance, disability insurance and a 401(K) retirement match to meet their needs. Employers are less likely to recruit or outsource jobs to other countries and offer incentives to retain older workers. Only one in 20 said they had no problem hiring qualified workers.

“N.C. like many other states needs to work on improvements to our school system in an effort to prepare our youth for the working world. Technical and soft skills are as important as their SAT scores—if they even took the SAT. We have to get back to preparing our children in the same manner that other generations were prepared to work hard, be responsible, be respectful and learn—and never stop.” (Government, 100-249 employees)

Figure 18: Factors Very Important in Hiring Decision

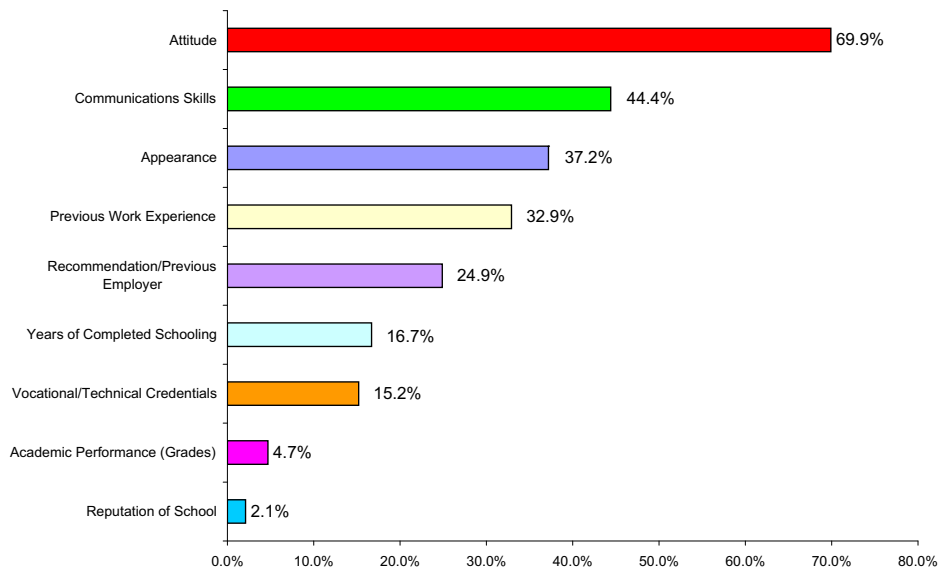
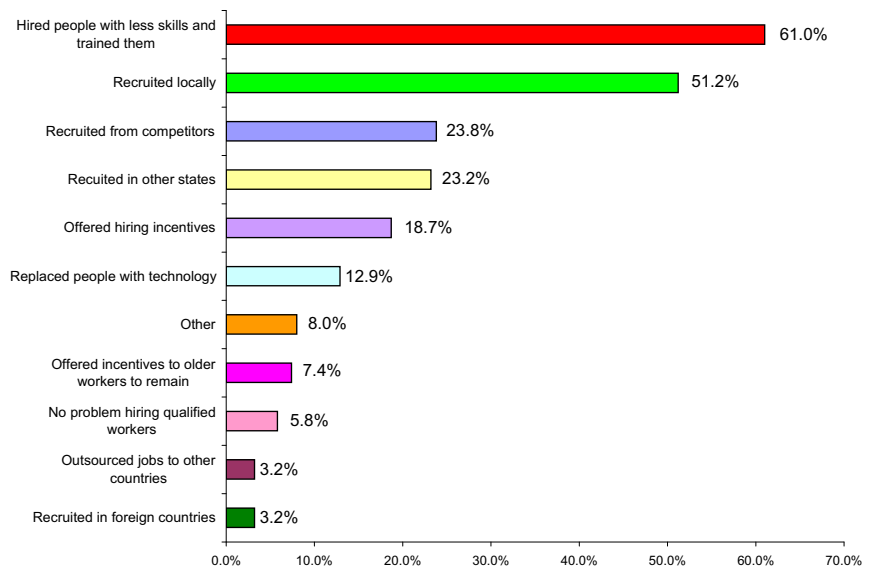


Figure 19: How Employers Meet Their Need for Qualified Workers



“Under normal circumstances we only hire those with experience in the available position. We are a small company unable to provide the extensive on-the-job training required for our entry-level positions.” (Health Care, 10-24 employees)

As indicated in Figure 20, most N.C. employers are very likely or likely to hire veterans, women, recent high school graduates, and people 55 and older. A majority of employers are also very likely or likely to hire welfare recipients. Most employers are either unlikely or not sure about hiring the disabled and former prison inmates.

Training

A majority of N.C. employers (53.9 percent) said they are spending “more” on training employees, while about one-third said “about the same” and only 3.5 percent indicate they are spending “less” as shown in Figure 21. Figure 22 reveals that employers also devote most of their training dollars to providing their employees

“Skilled labor force is going down hill.”
(Construction, 10-24 employees)

“Prehistoric.” (Finance, Insurance, Real Estate, 10-24 employees)

“What Skills Market?” (Manufacturing, 25-49 employees; Construction, 50-99 employees)

“Extreme shortage, period.”
(Construction, 1,000 or more employees)

“NORTH CAROLINA’S skill market is relatively low compared to other states.”
(Government, 250-499 employees)

“North Carolina skills market is in need of help! ... THE HELP IS NEEDED NOW!” (Military, 1,000 or more employees)

“Driving industry away!” (Mining, 25-49 employees)

“Dismal compared to other states.”
(Telecommunications 1,000 or more employees)

Figure 20: Very Likely or Likely to Hire for Entry-Level Jobs Requiring On-the-Job Training

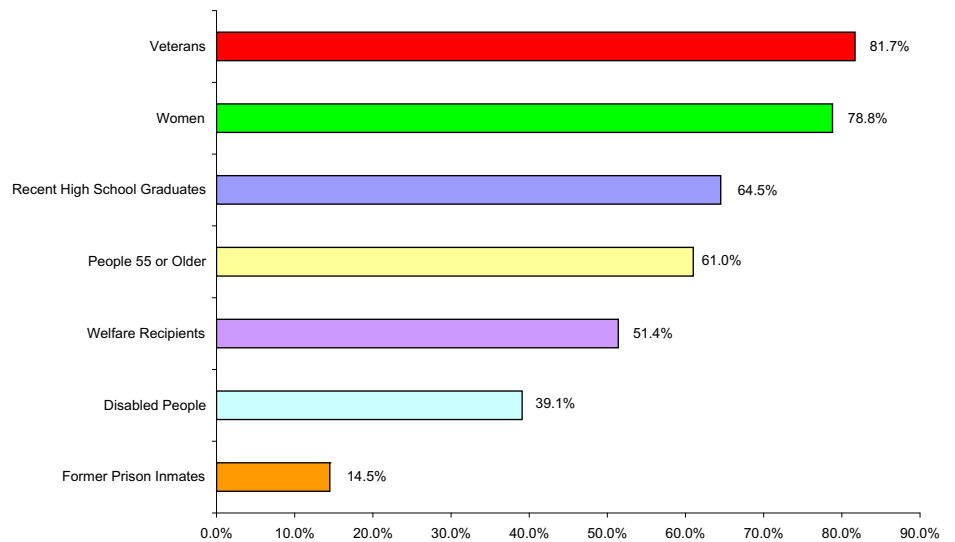
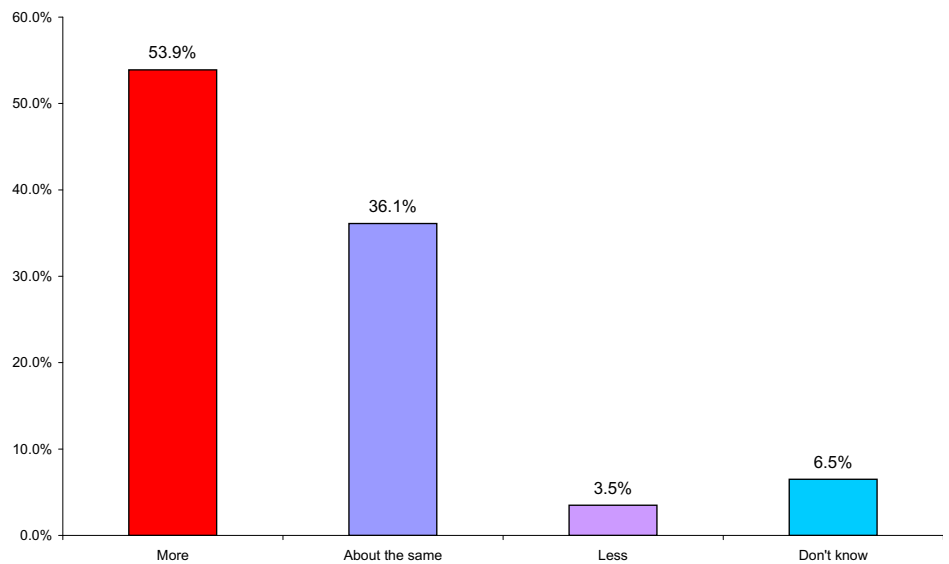


Figure 21: Spend More/Less Training Employees Since 3 Years Ago



technical skills and basic skills and considerably less for managerial development and sales. Moreover, about four out of 10 employers said that 80 percent to 100 percent of their employees receive formal training each year (see Figure 23).

Comments

Employers were asked to respond to an open-ended question regarding their opinions on the N.C. skills market. A total of 251 employers made comments. A number of employers describe the N.C. skills market in negative terms such as “pre-historic,” “dismal,” “poor,” “deteriorating,” “very weak,” “limited,” “inadequate,” or “losing ground,” while only one gave a positive comment.

Some employers complain there is not even enough unskilled labor that is “trainable” to fulfill their needs. Either they have poor skills (e.g., communications,

“Very worried regarding the future, if there is a future, for our manufacturing companies. If we can’t hire trainable people or those that can speak English, we are going to run out of jobs and companies.” (Manufacturing, 100-249 employees)

“Community Colleges, like ours, are picking up the slack by taking uneducated HS students and preparing them for the workforce.” (Government, 250-499 employees)

“Drugs, the silent killer of our future. Six out of ten cannot pass the drug screens. Two out of ten that are hired have used an addictive to pass the screens, only to face termination when a random test occurs.” (Construction, 250-499 employees)

Figure 22: Receives Largest Allocation of Training Budget

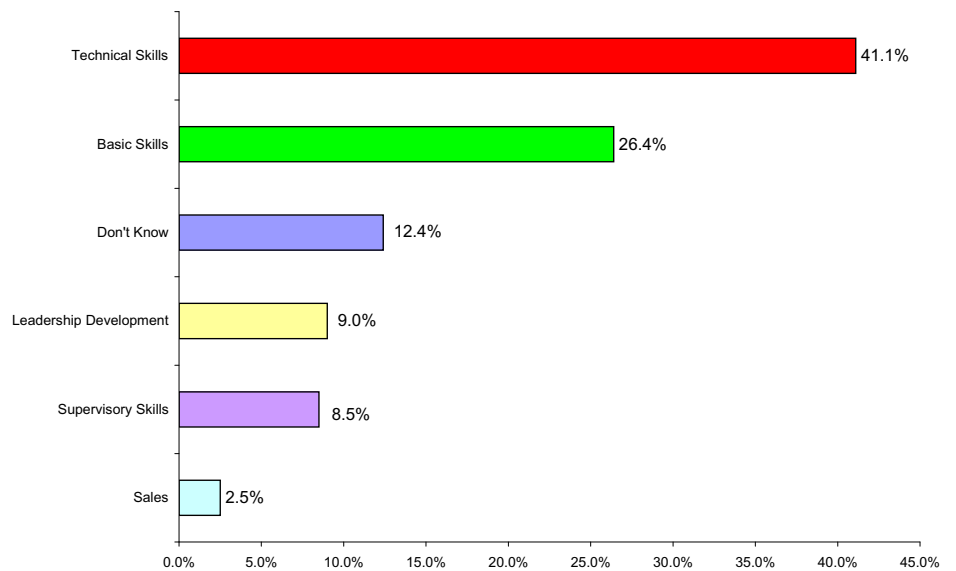
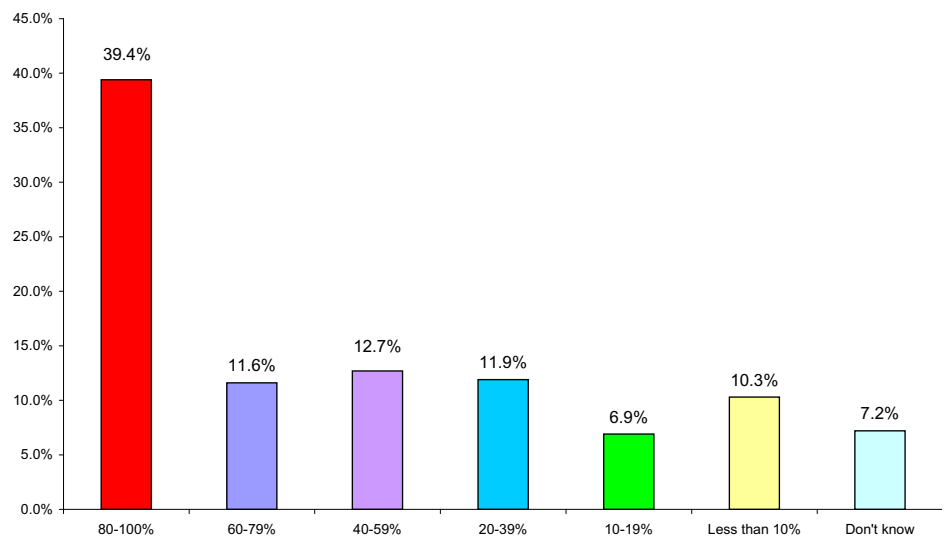


Figure 23: Percent of Employees Receiving Formal Training Annually



employability), are immigrants who have trouble speaking English, or have a substance abuse problem. At least one employer commented that poorly skilled workers are a health and safety concern in the workplace.

Other employers complain about workers showing up for work intoxicated or on drugs. One employer said they hire unqualified people due to the lack of qualified applicants who can pass a drug test. N.C. employers further complain there are applicants who prefer to draw unemployment and stay at home or go to school even when offered high paying jobs. Another employer said they have employees who quit only to draw a check from social services.

The occupations employers said they were experiencing a shortage of skilled labor included:

“We are running out of technically savvy people, and that’s just a shame.”
 (Services, 50-99 employees)

Electricians and electrical engineers	Nurses (RN) and nursing assistants
Electrical linemen	Dental radiologists
Carpenters	Biotechnology
Plumbers and pipe fitters	Paramedics
Brick masons	Physical therapists
Heating and air conditioning service technicians	Boat builders
Refrigeration service technicians	Webmasters
Painters	Plastic process technicians
Heavy equipment operators	Printing industry
Welders	Computer numerical control machine operators
Iron workers and riggers	Maintenance mechanics
Auto and truck service technicians	Millwrights
Law enforcement	Heavy equipment diesel mechanics
Firefighters	Knitters
Allied health positions	

Skills Shortage: A Chronic N.C. Problem

Most N.C. employers are experiencing a shortage of qualified job applicants and more than one-third tell us it is either a difficult or severe problem. It is especially acute with job applicants for skilled/technical jobs. N.C. employers are pessimistic regarding the future, believing the skills shortage will get worse. If you consider the results of employer surveys going back to 1989, their pessimism may be because a skills shortage appears to be a chronic problem in North Carolina.

These findings are nothing new. There are plenty of other studies that corroborate the results reported here. For example, a 2005 survey by the National Association of Manufacturers found that 81 percent of its members report a moderate to severe skills shortage and the biggest shortage is for technically skilled employees. Comparatively, 85 percent of N.C. manufacturers in the N.C. Skills Market Survey said they were experiencing a skills shortage to some degree with applicants for skilled/technical jobs the more significant problem. Manufacturers are not alone in their concern. About three out of four hospital CEOs say they are facing significant shortages of registered nurses and radiology technicians, one-half need more pharmacists, one-third say laboratory technicians are needed, and one-quarter of CEOs require more outpatient therapists and licensed practical nurses.¹ Similarly, construction employed 6.7 million in 2001, and by 2010 the industry will need an additional 1.5 million workers just to maintain productivity. The skills shortage is not limited to American shores. Manpower Professional's recent international survey of 32,000 companies in 26 countries found that 45 percent of its respondents said they were experiencing difficulty finding workers, especially in fields that require training credentials and experience. However, the survey reports that American companies are feeling the effects of the shortage more acutely than other countries.²

The economic consequences of a skills shortage can be costly. A skills shortage stiffens competition for the few qualified workers available and drives up wages. Companies will have to invest more in education and job training programs to prepare less qualified workers for skilled jobs. A greater investment in wages, education and training reduces profits and dividends for stockholders. In turn, small employers that cannot compete with the resources of larger companies may go out of business. In some cases, corporate survival may mean more outsourcing of jobs to countries that can provide skilled labor at cheaper wage rates. Moreover, fewer skilled workers could seriously impede product and service quality, sales, innovation, and productivity. All of this means slower economic growth, which in turn means slower growth in state and federal government tax revenues. For the American economy, a skills shortage could fuel inflation, reduce our standard of living, and degrade our competitive position with other countries.

1. "The Future of Health Care: An Outlook from the Perspective of Hospital CEOs." Deloitte & Touche L.L.P.'s ninth biennial survey, (2002).

2. Gina Ruiz, "Skilled-Worker Shortage Fuels Wage Inflation," *Workforce Management*, 85, (2006): 10.

"We are finding that there are not enough employees to go around. ... In Western North Carolina—everyone is screaming that we need industry—We're a small industry who needs workers! I have had an entry level position listed at the ESC for almost 3 weeks and have received one application!!!!!!!"
(Manufacturing, 25-49 employees)

Some Good News but Much Room for Improvement

The 2006 N.C. Skills Market Survey does provide some good news regarding the proficiency of high school graduates in most academic subjects. Nearly two-thirds of employers said that graduates have the necessary reading and computer skills. In addition, more employers agree than disagree regarding graduates' competency in math and science. In comparison with previous surveys in 1989 and 1994, N.C. employers seem to indicate there has been an improvement in the academic skills of high school graduates. However, one-fourth to one-third of employers is still dissatisfied with the reading, science and math skills of graduates. The failure of high schools to adequately educate all students in basic academic skills means that employers (as well as colleges and universities) have to invest in remedial education just to prepare them for job-specific training. A study of remedial education in the state of Michigan estimates that it costs Michigan businesses an average of \$13.78 per employee for a total of \$40 million a year to teach its workers basic skills.³

As an overall evaluation, most employers give N.C. high schools a letter grade of C on their ability to prepare young people for the workforce. This might be an improvement in employers' earlier evaluations (1989 and 1994) where most were dissatisfied with the preparation of high school graduates for entry-level jobs. Dissatisfaction with the preparation of students might have indicated a barely passing or failing grade. Yet it remains that three out of four employers give N.C. high school schools a grade of C, D or F. In other words, approximately 75 percent of N.C. employers tell us high schools are middling at best in workforce preparation.

Very similar results were found in a 2000 study of U.S. workers' attitudes about work. A majority of workers gave high schools a grade of C (40 percent), D (10 percent) and F (6 percent) when asked how well high schools prepare graduates with the skills and attitudes necessary to succeed in the workplace.⁴ Another study found that among public high school graduates going into the workforce, 39 percent said there were gaps in their preparation for what is expected in their current employment, and 46 percent said there were gaps in the skills and abilities of jobs they hoped to get in the future.⁵ The same study found that employers estimated 39 percent of recent high school graduates are unprepared for entry-level jobs, which is exactly the same percentage of non-college bound graduates who said they had gaps in their preparation. Moreover, 45 percent of employers said high school graduates did not have the skills and abilities to advance.⁶ N.C. employers are deserving of a higher standard than what a letter grade of C implies. Creating a workforce that can enable businesses to compete in global markets will require high schools to earn a higher grade from employers.

3. Jay P. Green, "The Cost of Remedial Education: How Much Michigan Pays When Students Fail to Learn Basic Skills," Jay P. Mackinac Center for Public Policy, (2000): 7.

4. "Making the Grade: What American Workers Think Should be Done to Improve Education," John J. Heldrich Center for Workforce Development at Rutgers and The Center for Survey Research and Analysis at the University of Connecticut, (2000): 9.

5. "Rising to the Challenge: Are High School Graduates Prepared for College and Work?" Achieve, Inc., (2005): 3.

6. Ibid., 6.

"They need to be able to read and write and have basic math skills. Many I interview have no understanding of decimals or fractions. Most cannot read a tape measure. Many cannot fill out our application because they cannot read. If they cannot read and write I cannot be sure they understand our safety training and this would put them and us at a terrible risk of injury or even death. Safety is the key to a good worker. If you have someone that is able and willing to work safely you can train them to do almost anything."
(Manufacturing, 50-99 employees)

What N.C. Employers May Really Want: Work Experience and Soft Skills

While N.C. employers' assessment of recent high school graduates' academic skills may have improved from previous assessments in 1989 and 1994, they are clearly dissatisfied with the employability, communication and job-specific skills of high school graduates. Two-thirds of employers said that recent graduates do not have the necessary employability skills, including traits such as work ethic, attendance and punctuality. Most employers are also unhappy with the oral and written communication skills of graduates, while a greater percentage is displeased than pleased with their training in job-specific skills. (In particular, Employers' written comments suggest what they mean by better communication skills is that recent high school graduates need to improve their interviewing skills and they want them to speak properly and to complete job applications.)

When it comes to reasons for *rejecting* job applicants, employers are most likely to do so because of inadequate employability skills, insufficient work experience, a lack of job-specific skills, poor communication skills, and no prior recommendations. When making *hiring decisions*, employers are more interested in an applicant's attitude, appearance and how well the person communicates. They also like to see prior work experience and a recommendation from a previous employer. Academic skills, grades, computer skills and even vocational credentials are least important in the hiring decision. An earlier survey by the National Association of Manufacturers in 2001 found similar results, with inadequate employability skills and insufficient work experience the top two reasons for rejecting applicants. Similarly, attitude, communication skills, previous work experience and a recommendation from a current employer were manufacturers' top four most important factors when hiring a new employee.

These results clearly indicate that N.C. employers primarily value work experience and employability skills (e.g., work ethic, attendance, timeliness). Job applicants with prior work experience are more likely to have developed the attitudinal qualities, soft skills and behaviors that employers say they want to see in people applying for their entry-level jobs.

Although employers reject applicants because they lack job-specific skills, they also said vocational and technical credentials are not a high priority in the hiring decision. At the same time, six out of 10 employers said they are willing to hire people with less skills and give them job-specific training. Moreover, employers tell us they are spending more money on training than they did three years ago and devote most of their training dollars to teaching basic and technical skills to employees.⁷ While employers would undoubtedly prefer to hire applicants who have good academic,

7. *The 2005 Skills Gap Report—A Survey of the American Manufacturing Workforce* showed almost identical results on this question. While 50 percent of the respondents to the 2005 survey of the National Manufacturing Association (NAM) said that they spend more on training than they did 3 years ago, 53.9 percent claimed they were spending more in the N.C. Department of Labor (NCDOL) study. Similarly, 44 percent of the NAM respondents said they were spending about the same while 36.1 percent of the NCDOL respondents gave the same response.

“New students do not know how to set and achieve goals. They are surprised when there are consequences for missing deadlines/falling short of expected levels of performance. They act as if they expect the targets to be lowered if they are hard to achieve. They are weak in technical reading and comprehension (charts, diagrams, graphs, etc.) They have problems working with time on a 60 minute basis as they appear to be used to a decimal-based system. Their skills with practical applications of math are very low. They can perform addition, subtraction, division and multiplication, but they cannot apply this knowledge to problem solving.” (Manufacturing, 250-499 employees)

job-specific and employability skills, these findings suggest they are willing to hire people with no vocational training and even inadequate academic skills as long as they have developed good employability skills. This being said, it still does not excuse N.C. high schools from their responsibility to empower every graduate with the necessary foundation of academic skills to successfully master the job-specific requirements of employers.

Traditionally, many high school students develop employability skills by working part-time jobs after school, on weekends and during summer months. In point of fact, there is good evidence that teenage employment has many beneficial results. A 10-year longitudinal study of 14- and 15-year-olds examining the effects of part-time employment concluded that students who work even as much as half time have more advantages than those students who do not work during high school. The study showed there were no trade-offs between paid work and other youth activities, such as homework, family work, volunteering, and extracurricular activities. The study also concluded that part-time employment promotes vocational exploration, develops confidence, work values and time management skills, and does not interfere with school performance. According to the study, "... paid work can have marked advantages for adolescents, particularly when it is pursued steadily, and characterized by learning opportunities. Steady employment fosters postsecondary educational attainment, and this effect appears to be particularly strong for adolescents who have relatively low educational promise upon entry to high school. Adolescents who reported learning opportunities in their high school jobs were further along in their career trajectories seven years after high school than those whose early jobs provided fewer challenges and chances to use their skills and abilities. All told, teenage work, especially if pursued consistently and moderately, appears to confer advantages in the early socioeconomic career."⁸

Yet a declining number of North Carolina's high school students are benefiting from the effects of part-time employment. Figure 24 reveals that the number of Youth Employment Certificates being issued to the state's population of 16- and 17-year-olds has dropped appreciatively from 52 percent in 1995 to 28 percent in 2004—nearly a 50 percent drop. Just looking at the total number of certificates issued in 1995 compared to 2004 shows a drop of about one-third. This trend is not isolated to North Carolina. Nationally, teenage employment in 2006 is the lowest since statistics were first taken in 1949. Moreover, there is a large disparity between white, black and Hispanic teenagers.⁹ If the number of N.C. high school students getting a certificate is dropping, then this can only indicate there is a corresponding drop in the number of students receiving work-based learning experiences such as job shadowing, co-op education and internships. This may also explain why there has been a decline in employers' assessment of the employability skills for high school graduates since 1989.

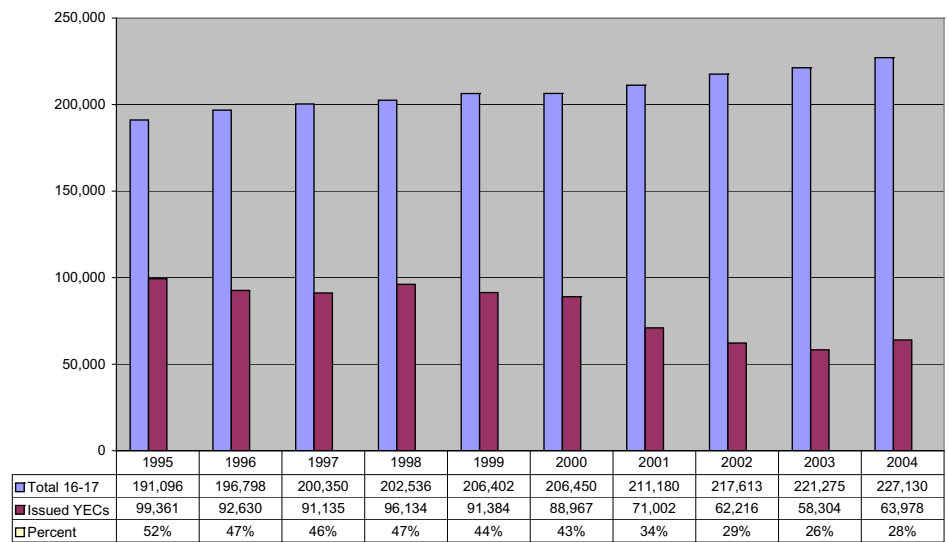
8. J. T. Mortimer, *Working and Growing Up in America* (Cambridge: Harvard University Press, 2003), 205.

9. Paul E. Barton, "High School Reform and Work: Facing Labor Market Realities," (Education Testing Service, 2006), 27.

"We allow High School students in Allied Health program to do rotations in departments of interest in addition to the Special Education Program where we work with kids in shadowing in some non-clinical entry-level jobs where they can see expectations of the work force. Allowing this type interaction outside of a classroom is really the only way the students get a real picture of workplace expectations." (Health Care, 1,000 or more employees)

"We need to be putting a higher priority on skilled workers in our high schools before we run out." (Construction, 250-499 employees)

Figure 24: Number and Percent of All N.C. 16- and 17-Year-Olds Issued Youth Employment Certificates



Public Education Needs to Reconnect with Economic Reality

Employers complain that N.C. high schools almost exclusively focus on higher education at the expense of those students who will enter the workforce upon graduation. As a result, too many graduates are planning to enter postsecondary education after high school graduation. Yet a significant percentage of college-bound high school graduates never complete either a two- or four-year college degree. The National Center for Public Policy and Higher Education reports that 58 percent of first-time, full-time students complete a four-year degree within six years of entering a N.C. public or private institution that offers a bachelor diploma. This means that 42 percent of those entering did not complete within six years of entering a four-year college program.¹⁰ While the National Center for Public Policy and Higher Education does not report a completion rate for associate degrees, it does show that only 48 percent of first-year N.C. community college students return their second year.¹¹ The economic benefits of people with some college compared to those who are only high school graduates are negligible. Furthermore, research shows that 40 percent of those who have received a four-year degree are employed in jobs that do not require a college degree.¹²

These statistics signal a major “disconnect” between the messages students receive and economic realities. Most entry-level jobs, according to the employers in this survey, only require a high school diploma or less. The N.C. Workforce Development Commission’s recent report assessing the state’s demand and supply for labor supports that claim. As shown in Figure 25, approximately three out of

10. “Measuring Up 2006: The State Report Card on Higher Education—North Carolina,” The National Center for Public Policy and Higher Education, 10.

11. The National Center for Public Policy and Higher Education reports that the percent of freshman at four-year N.C. institutions returning their sophomore year is 80 percent.

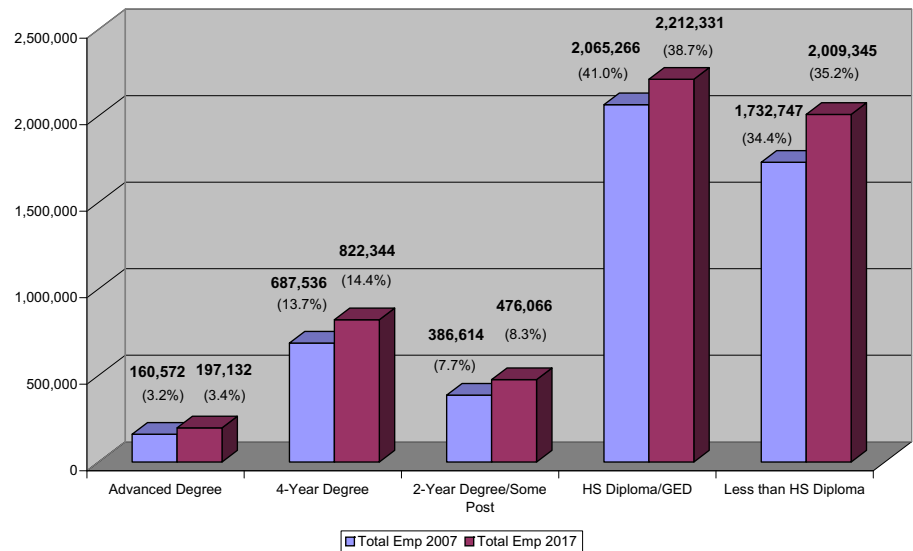
12. Barton, 19.

“The school systems make the assumption that all students should go to college. The reality is that many are best suited for vocational jobs, which they are not prepared for by the schools. As a consequence, the business community takes on the responsibility of training new workers in the most basic of work skills to include getting to work on time.” (Manufacturing, 0-9 employees)

“Our company has made numerous attempts to work with our local school district, both to create internship opportunities as well as to enhance current industry focused curriculum development, work ethic training and orientation, exposure to career options/opportunities, etc. and have really received little or no response from the school district. We are making these overtures because of the lack that we see in area workforce development. I strongly encourage the state to increase this focus, making it a priority for school systems (especially in districts where the majority of high school graduates do not go on to higher education) to work with local industry with the goal of improving these skills. Although we need to ensure that our students have obtained the basic skills as tested by the EOGs, we also have a responsibility to ensure that they are ‘employable’ and will succeed in the workforce.” (Manufacturing, 25-49 employees)

four N.C. jobs currently require a high school diploma or less. That ratio is not expected to change much in the next 10-years. In contrast, only one in four jobs now and in the future will require a postsecondary degree or some postsecondary education.¹³ As a consequence, high schools will remain the largest supplier of workers for our state’s employers and the more significant educational institution in preparing young people for work.

Figure 25: Total N.C. Employment by Educational Requirements for Estimated Employment in 2007 and Projected Employment in 2017



Because of its importance to the state’s economy, N.C. high schools need to take more seriously the workforce needs and requirements of our state’s employers. Preparing students for college should not be its exclusive focus. The declining number of N.C. high school juniors and seniors getting employment experience is good evidence that the state’s public education system does not take workforce preparation as seriously as it should. While there has been some improvement in the academic skills of high school graduates, only reading saw a majority of employers agreeing graduates had the necessary skills. Less than a majority of N.C. employers gave the mathematics, science and communication skills of graduates the same assessment. **As a consequence, every high school graduate needs to be job-ready, which means that N.C. high schools need to continue improving the basic academic skills of all graduates so that they have an adequate foundation in which to be trained in job specific skills.**

However, not everything can be learned in the classroom; work experience is still the best method for learning the values, skills and behaviors that employers expect from job applicants. **N.C. high schools must reverse the trend of fewer high school students receiving the beneficial effects of work experience by reviving cooperative education and expanding other work-based learning opportunities**

13. “North Carolina State of the Workforce: An Assessment of the State’s Labor Force Demand and Supply,” The North Carolina Commission on Workforce Development, (2007).

“The trades are considered the jobs for failures even though as a carpenter I made more than most people with a bachelor’s degree.” (Construction, 100-249 employees)

such as internships, registered apprenticeship and even entrepreneurial opportunities. Since many N.C. high school students may not get the opportunity of a work-based experience, community service hours would be another means by which high school students can develop the “soft skills” important to employers and adulthood. **Moreover, middle schools and high schools need to help students begin thinking about their future occupational goals by exposing them to different occupations through means such as field trips and job shadowing. Parents, who for the most part have one vision for career and financial success which is the attainment of a four-year degree, also need to be exposed to career information and opportunities to help their children make good career choices.**

Another way to help young people learn the soft skills and gain greater exposure to career opportunities and job-specific training is by tapping a source of knowledge and experience that will be leaving the workforce over the next couple of decades. **Our state’s retiring baby boomers with knowledge and experience in skilled trades should be enlisted into a volunteer community service organization like Volunteers in Service to America (VISTA) to work with schools to mentor and coach students and teachers.**

N.C. Employers Need to Be Part of the Solution

One way in which middle and high school students and their parents can get more exposure to these opportunities is through more employer involvement inside local schools. One in three N.C. employers said they do not participate in any activities with high schools. Furthermore, only four in 10 participate in jobs fairs, one-third provides part-time employment opportunities, and one in 10 works to incorporate industry standards into the curriculum or develop curriculum. The best way for N.C. employers to solve their own skills crisis and guarantee that graduates are job-ready is by becoming more involved in local schools. N.C. employers should not expect the schools to take the initiative. **Instead, N.C. employers should take leadership in creating viable business-education partnerships organized to improve employment-readiness of high school graduates and have agreed upon benchmarks for accountability. Such partnerships need to be sanctioned by local school boards and the mission clearly defined. At a minimum, partnerships should have employers assist local schools in developing work-relevant curriculums, expose students and parents to career information and opportunities in their local area, and provide work-based learning opportunities for students.**

N.C. employers also need to deal with some of its contradictions. For example, employers continue to judge the academic skills of high school graduates as inadequate while failing to communicate the importance of academic proficiency by requiring applicants to submit academic transcripts. **N.C. employers cannot expect public education to bear this responsibility alone, thus N.C. employers that hire high school graduates must request high school transcripts and test scores from job applicants to signal the importance of academic achievement.**

However, **reforming schools will not alone solve the growing skills shortage nor should N.C. employers expect government and education to fix the problem. N.C. employers will have to help themselves. N.C. employers will need to develop strategies to retain current workers longer.** Only one out of 14 N.C. employers said they offer incentives to older workers to remain, but retaining current workers will require them to implement programs that attract older workers to remain longer on the job. More than likely, employers will need to develop employee retention programs and consider such options as offering financial and fringe benefit incentives, flexible retirement options, flexible schedules, reduced workloads, shorter workweeks, job sharing and training and education. Moreover, N.C. employers will need to address working conditions and employee safety.

Some have claimed that data provided by the U.S. Bureau of Labor Statistics (BLS) prove that the number of available jobs will outstrip the number of available workers by 2010. However, others contend (including the BLS) that there are flaws in the math and it is a misrepresentation of the data. They argue that there are enough available people to fill available jobs. According to the BLS, in addition to the 8.2 million Americans who are unemployed, there are more than 75 million people of working age not working and another 24 million working part-time.¹⁴ On top of people who are discouraged or working part-time, other potential labor market participants include early retirees and stay-at-home parents. Either way, there is no denying we face a future where there will be more jobs than qualified employees to fill them.

Consequently, **N.C. employers will have to consider tapping potential labor pools that may have gone unnoticed or underutilized before. N.C. employers will need to actively recruit from special populations such as those who have given up on the labor market, women, older people, the disabled and ex-offenders.** In some cases, this may require offering incentives such as family-friendly policies to attract stay-at-home parents. In other cases it may require partnering with the N.C. Department of Corrections to prepare inmates returning to society for work or attracting women to nontraditional occupations such as construction. In any case, this will require N.C. employers to think differently about the labor market and how and where they recruit potential workers.

Registered Apprenticeship: A Third Way

High school students are usually presented with an “either/or” option. In other words, you can choose *either* to go to a postsecondary institution *or* go directly into the workforce. Students receive much better information and counseling regarding universities and colleges. Unfortunately, they are not likely to get any information and counseling on career opportunities, particularly in the skilled trades where jobs can be high paying and offer career advancement and opportunities for higher education.

14. Robert J. Grossman, “The Truth About the Coming Labor Shortage,” *HR Magazine*, v50, (2005): 52.

“I love our current workforce (very diverse in age, national origin, gender, and skill background). However, to hire them I had to weed out a disturbingly high number of illegal applicants and those lacking the communication and social skills to refrain from cursing and boasting about unethical behavior and confrontational episodes with supervisors in the interviews.” (Manufacturing, 25-49 employees)

“Need to encourage students to look to vocational skills such as CNC machinists, welders, etc., for good career opportunities.” (Manufacturing, 500-999 employees)

The “either/or” option tends to narrow our vision when it comes to alternate learning paths to higher education and how higher education is defined. Going from high school directly to a two- or four-year college isn’t the only route, nor is higher education strictly the domain of colleges and universities. A good example of both an alternate route and a different definition of higher education is registered apprenticeship.

Registered apprenticeship is a national program that prepares individuals for occupations requiring a broad range of high-level skills and related technical knowledge. Currently there are 900 apprentice-able occupations ranging from aircraft mechanics and electricians to personnel systems managers and soil conservation technicians. The apprentice learns the “how-to” as a wage-earning employee training on-the-job under the direction of a highly skilled craftsperson. Usually, an apprentice starts at half the craftsperson rate, working their way to the full rate upon completion. As an apprentice demonstrates satisfactory progress in both on-the-job training and related instruction, he or she is advanced in accordance with the wage schedule as outlined in the registered apprenticeship standards. During the apprenticeship, skilled craft workers supervise the apprentices, and review, evaluate and maintain records related to the apprentice’s job performance. Registered apprenticeship is also competency-based which means the apprentice advances upon demonstration of mastery.

The “why” is learned through related technical instruction in the classroom. A registered apprenticeship program can take from one year to six years, with the average program four years. For every 2,000 hours of on-the-job training, it is recommended that an apprentice receive 144 hours of related classroom instruction. A typical four-year program requires 8,000 hours of on-the-job training and 576 hours of related instruction. About 60 percent of all N.C. apprentices receive their related instruction through the community college system while the other 40 percent of classroom training comes directly from employers, the military, professional associations and labor organizations. Once an apprentice has completed training, he or she receives a nationally recognized certificate of completion, which in many cases can be more valuable to the holder as a means for employment than a baccalaureate degree.

The problem is that registered apprenticeship is underutilized as an education alternative in North Carolina. Only 456 high school students were registered as active apprentices in fiscal year 2004-05. This represents less than three-tenths of 1 percent of the total population of eligible students in 11th and 12th grades.¹⁵ A 2004 Government Accounting Office forum of national education and workforce training experts contends that career education and apprenticeship are not given enough emphasis in the nation’s high schools.¹⁶

15. The final enrollment for 11th graders in N.C. public schools during the 2004-05 school-year was 91,898. The total for 12th graders was 79,025. The statistics are reported in the *North Carolina Public Schools Statistical Profile for 2006*.

16. “Highlights of a GAO Forum, Workforce Challenges and Opportunities for 21st Century: Changing Labor Force Dynamics and the Role of Government Policies.” GAO Report Number GAO-04-845SP, June, 2004, 11.

“I do not believe the problem is the schools. I believe it is the culture. The schools are the scapegoat.” (Manufacturing, 100-249 employees)

While the completion of an apprenticeship program is a worthy goal in and of itself, it does not mean that the completer cannot advance to other higher educational opportunities. In Europe, completion of an apprenticeship program is only the beginning step and many companies offer journeymen educational and advancement opportunities that lead many into management ranks including corporate boardrooms.

The difference between registered apprenticeship and other forms of higher education is that employers pay the apprentice a wage and also pay for related instruction. The training and education of an apprentice for an employer is a significant investment. Employers who see this as a serious investment are not likely to hire high school students who are simply exploring careers or who are there just to get work experience. They are looking for students whose goal is to complete the program and become productive employees. Unfortunately, too few high school students ever complete an apprenticeship program. The problem is further compounded because many apprenticeship programs involving high schools students have only one apprentice, and the employers do not have a commitment to training, but perceive their involvement with the program as a community service to local schools.

For registered apprenticeship to be a practical education and training alternative, employers must have a commitment to training and be willing to offer apprentice opportunities to high school students. In turn, high schools will need to do much better job screening potential applicants so that the employer has some guarantee regarding the students' commitment to completing the program and becoming a productive employee. Getting employers to provide such opportunities to high school students and providing them job-specific training may be an uphill climb since three out of four N.C. employers said they were unwilling to do so. Yet registered apprenticeship offers the potential to employers of growing their own skilled labor to suit their job-specific needs.

N.C. high schools need to begin acting upon registered apprenticeship as an alternate and viable path to higher education. But registered apprenticeship as an alternate path is not possible without the support and buy-in of N.C. employers. Accordingly, not only will current apprenticeship sponsors need to make apprentice opportunities available to high school students, more sponsors will be needed to meet growing demand. Registered apprenticeship is the best way for employers to ensure that workers are trained the way they want them. Results from satisfaction surveys show that approximately 75 percent of employers that have apprenticeship programs say that the program is either very important or critically important relative to the company's goals. Results also show that apprenticeship programs reduce turnover and improve productivity, quality workmanship, recruitment, employee problem-solving, employee versatility and skills of employees.

In the end, solving the skills crisis is not the responsibility of a single institution but the responsibility of all, which include schools, government, business and even parents and students themselves. N.C. employers cannot sit idly by and wait upon public schools to change for the better because they are not likely to change upon their own volition. N.C. employers need to be knocking at the school house door and ready and willing to roll-up their sleeves to go to work.