

Public Deliberation in National Issues Forums



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National Issues Forums (NIF) issue books are designed to stimulate public deliberation, which is a way of making decisions together that is different from discussion or debate. The purpose of deliberative forums is to inform collective action. As citizens, we have to make decisions together before we can act together, whether with other citizens or through legislative bodies. Acting together is essential for addressing problems that can't be solved by one group of people or one institution. These problems have more than one cause and therefore have to be met by a number of mutually reinforcing initiatives with broad public participation. This book is about such a problem.

Problems of this sort are difficult to solve because there is a difference between what is happening and what we *think* should be happening—but there is no agreement about what *should* be done. Expert information alone can't answer these questions; they require people to exercise their best judgment. Public deliberation is a way of making sound judgments. It is neither new nor a group technique, but it has been at the heart of sustainable democratic change since the American Revolution. Deliberation is essential everywhere collective decisions are made.

We make sound judgments by weighing the likely consequences of various options for action against all that we hold dear. That is deliberation. Issue books identify what is most valuable in each option. The books also present the tensions that arise among options because of the differences in the things people value. This framework sets the stage for people to sort out and then work through the tensions—not to reach total agreement but to identify a common direction or way to act on a problem. A more complete understanding of the nature of the problem (and what people will and won't do to solve it) often emerges from public deliberation. This shared understanding and sense of direction are prerequisites for effective problem solving.

People use issue books for different purposes. Some people use them to engage other citizens in responding to a problem. They may also want to encourage deliberations in organizations that have the ability to help solve the problem. That is particularly the case with issues likely to polarize communities and government agencies. Issue books are also used in educational settings to introduce students to their role as citizens and to develop a more informed electorate.

Deliberation helps people make the difference they would like to make in our democracy. They integrate individual voices into a more reflective and shared, though not uniform, public voice. Community organizations, professional associations, and legislative bodies benefit from hearing how citizens go about making up their minds when they confront the always difficult trade-offs that have to be made on every issue.

Forum sponsors include, but are not limited to, civic, service, and religious organizations, as well as libraries, high schools, and colleges. Sponsoring organizations select topics from among each year's most pressing public concerns, then design and coordinate their own forums. The forums are nonpartisan and do not advocate a particular solution to any issue, nor should their results be confused with referenda or public-opinion polls.

Preparing Today's Kids For Tomorrow's Jobs

What Should Our Community Do?



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What Should Our Community Do?

by Elizabeth Renicks

Introduction 2

A rising chorus of complaints from the nation's employers is a troublesome sign that too many of today's high school graduates are ill prepared for the jobs they seek. What and how should young people be taught to best equip them for tomorrow's workplace and help strengthen the economy of the communities they live in? What community resources—including but not limited to schools—can be brought to bear on the problem?

A P P R O A C H O N E

A Firm Foundation 6

Americans' strong work ethic has long been credited for building this nation's economy. In this view, today's emphasis on "me first" and instant gratification has eroded this sense of responsibility. Our focus should be on teaching basic work skills and character traits that are fundamental to job success at any level.

A P P R O A C H T W O

Academic Competition 13

The United States has been losing ground in an aggressively competitive global economy. Technology, math, and science are the keys to our economic future. If American young people are to hold their own in tomorrow's marketplace, it is critically important to improve the number and rigor of K-12 courses and to create community expectations for excellence in these areas.

A P P R O A C H T H R E E

The Community First 20

There is a critical need for qualified workers to fill jobs in the local businesses that are the backbone of a community's economy. In this view, community and educational goals should be created with the needs of the local economy in mind. This will not only benefit graduates and businesses, but will strengthen the community as well.

Comparing Approaches 26

Questionnaire 29

What and how should young people be taught to best equip them for tomorrow's workplace and to help strengthen the economy of the communities they live in?



>> Introduction

ASK PEOPLE ABOUT TODAY'S JOB MARKET and you get a wide range of answers. Some people will tell you that they're doing fine. But the news isn't always so good. Others bemoan the lack of good jobs that pay well. They tell stories of layoffs, forced career changes, or relocations. Some employers say the job market suffers from a lack of qualified workers or complain that workers can't keep up with the changing technologies that affect how business is done.

From the largest urban centers to the smallest rural hamlets, Americans worry about how to attain a stable income and the quality of life they value. Many are staring into the unfriendly face of a changing global economy. The reality is that in many ways the jobs and work environments of the future will look quite different from the jobs and workplaces of today.

Advances in technology have enabled nations like India and China to compete more directly in U.S. markets, and the academic rankings of American students are sliding off the top of the international heap. What effects will these trends have on our national prosperity?

Those who worry about preparing the workforce of the future have many common concerns. Increasing international competition is one strong pressure. "Americans compete with workers around the world for wages and benefits," notes a 2006 article in *Democracy: A Journal of Ideas*. They can "no longer rely on stable careers."

Another concern is that American graduates are coming to the workforce unprepared. "Ten million jobs could go unfilled by 2010 because the available workforce will lack the needed skills to fill the positions," says a recent report from the U.S. Chamber of Commerce. Owners of businesses around the country struggle to find employees adequately prepared to do the jobs they've been hired for. Some employers cite this deficiency as their chief concern.

Many factors play a role in determining the economic future of our families, our communities, and our nation. What do we want for our children? What kind of jobs do we need to advance our prosperity? What should young people know to be prepared for tomorrow's job markets? How do we cope with the winds of change in the world around us? What can we, as a community, do?

One thing we can do is to decide how best to educate our children for the world of work. As Washington State governor Christine Gregoire observes, “Education is the single most important economic investment we can make.”

A community’s ability to educate and prepare people for the jobs of the future is at the core of its decision making. Employers looking at potential employees ask questions about education and experience. Corporations looking to locate in a specific area ask questions about educational options and local worker preparation. Community leaders ask questions about how to ensure quality education. Parents want to know the best options for educating their children. Educators try to answer these questions, while juggling competing views about the purposes of education.

Discussions of what classes should be offered and what should be required of students from kindergarten through high school are critical in preparing future workers. But many actors outside the school system also play roles in educating young people. No single entity is fully responsible for shaping the many facets of a successful employee. Families, peers, community organizations and leaders, athletic associations, fraternal and faith-based organizations, and local businesses all play a role.

Of course, the mission of K-12 education is more than simply preparing students for their vocational lives. Our schools have other purposes. Preparing citizens to be active participants in a democracy is one. Providing opportunities for students to develop emotionally and socially is another. Nevertheless K-12 education is a central force in shaping the workers of the future, and decisions about how that should be done cannot be left to the schools alone.

Basic Academic Skills Employers Consider “Very Important” for High School Students Entering the Workforce

Skill:	Percentage of Employers:
Reading Comprehension	62.5%
English Language	61.8%
Writing in English	49.4%
Mathematics	30.4%
Foreign Languages	11.0%

Source: 2006 Survey by the Conference Board, Partnership for 21st Century Skills, Corporate Voice for Working Families, and the Society for Human Resource Management

Each community is a different environment. This issue book is designed to help people in a community make thoughtful decisions about what should be taught and how it should be taught through all its educational resources. It also explores how these decisions are affected by other elements in a community and in its region.

A local community is part of a network that forms a regional economy. Improvements in communication and transportation increasingly link communities to one another, and the challenges of workforce development often require cooperation across geographical and political boundaries. Each community must think through how it relates to the broader picture, which affects what sort of workers are needed to develop a strong community.



AP/Wide World Photos

North Mason High School senior Jason Veitch speaks with interviewer David Hawley during a mock job interview as part of the school’s life skills class in Belfair, Washington. Hawley is a financial advisor for Edward Jones.



Fotosearch

How much do we value basic character traits like courtesy, honesty, and reliability, as compared to competitiveness in global terms or the economic needs of our local community?

A great many factors play into the development of a productive workforce and a healthy economy. These include considerations like federal employment standards, immigration reform, welfare, health care, and the myriad issues related to globalization and technology. These issues must be considered as a community makes decisions about where it can direct its educational energies to prepare the best workers possible for the future. Deliberation about what impact these issues have on the problem is certainly warranted.

But this issue book focuses the immediate community decision making on the educational choices we can make to equip the future workforce. What can the various actors in a community do to best prepare our children and our communities for their economic futures?

Fundamental Perspectives

The U.S. Chamber of Commerce and the popular press often speak of the issue in global terms. Ordinary people in a given community might name the problem differently. They may ask, “How do we create jobs that will keep our children and grandchildren close to us?” or “How do we provide jobs that offer a decent living *and* maintain the character of the community we love?” A global economy may be distant and remote from their concerns.

Others, more urban or globally focused, ask different questions: “How can we position this community to be internationally competitive?” or “What can we do to attract and retain skilled and innovative workers in our city?” They want all that a modern economy can provide for themselves and for their children, and they are willing to prepare for it. Others embrace more mobility, recogniz-

ing that economic success may require flexibility and a willingness to move to obtain it. Their questions may include, “How do we prepare our children for what may well be several different careers?” or “What can be done to equip workers to move from one place to another smoothly?”

In facing the economic landscape of the future, parents wonder which educational choices will offer the brightest chances for their children. Business owners consider how to innovate to stay competitive or even to stay in operation. Communities work through the matter of attracting and keeping industries that will ensure strong economic opportunities in the coming years.

Basic Applied Skills Employers Consider “Very Important” for High School Students Entering the Workforce

Skill:	Percentage of Employers:
Written Communications	80.9%
Professionalism/Work Ethic	70.3%
Critical Thinking/Problem Solving	69.6%
Oral Communications	52.7%
Ethics/Social Responsibility	44.1%

Source: 2006 Survey by the Conference Board, Partnership for 21st Century Skills, Corporate Voice for Working Families, and the Society for Human Resource Management

Each community's basic decisions may be different. But the core decisions the community must make revolve around the same kinds of fundamental questions. To promote decision making about how to prepare workers for a changing, unpredictable economy, this issue book presents three different approaches, or perspectives, on what communities might do.

As deliberations begin, participants may well be tempted to avoid the difficult choices presented by these different approaches by concluding that "we need to do all three." That may be so, but it raises another difficult question: how much should a community devote of its time, energy, and money to what combination of choices?

Moreover, the different perspectives force us to examine closely what we hold valuable. For example, how much do we value basic character traits like courtesy, honesty, and reliability, as compared to competitiveness in global terms or the economic needs of our local community? The objective is not to choose one or the other in isolation but to examine all three and decide what trade-offs are acceptable, and which are not, in coming to decisions about how to use our resources. One community's decisions might not be the same as another's.

Remember also that schools as institutions have limited resources and limited capacities to change direction quickly to meet currently popular trends. Saying a school should implement all three approaches may be easy. Implementing all three at once is challenging.

Approach One: A Firm Foundation

According to this view, core character traits and capacities are a necessary first focus. Employers want workers who show up, take responsibility, show initiative, and work well with others. Too many of today's graduates—at all levels—lack these basic job skills. Schools and communities should prepare workers who will be productive, regardless of the particular business or industry or uncertain future technologies. Business and industry can train workers for specific tasks.

Approach Two: Academic Competition

In this view, schools and communities should emphasize the academic rigor that prepares students for an increasingly global economy. A rigorous education with emphasis on math, science, and technology is the key to developing productive workers and to maintaining U.S. global competitiveness.

This approach demands high standards and accountability for meeting them.

Approach Three: The Community First

This approach stresses the development of productive workers to meet immediate and foreseeable local needs. Meeting these needs builds strong communities and serves the majority. Because business and industry need workers to meet today's economic demands, this view stresses

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partnerships between business and education communities. It focuses on local prosperity and values—strong community ties.



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>> A Firm Foundation

APPROACH ONE SAYS that the most critical need for a successful American workforce is developing employees with a set of basic work skills, the ability and willingness to solve problems, and sound character.

Bryan P. owned a popular breakfast and lunch restaurant in Dayton, Ohio. While the crowds coming to eat at the Breakfast Club Café were certainly big enough to keep him in business, the quality and commitment of his workers was so poor that, after 14 years, he finally decided to shut the doors. “Our business has always been good, and our relationship with downtown has always been good,” he told the *Dayton Daily News*. “But the question is, how much employee turnover are you willing to tolerate?”

Bryan said the restaurant had an employee turnover rate of 300 to 400 percent a year, going through 70 people to maintain a base of 11 or 12 employees. He said he had a hard time finding employees who “would be polite, on time, who would show up, and who would show respect to the public that’s paying their wages.”

Bryan is not alone in facing the financial costs of unprepared and indifferently dedicated workers. According to

the U.S. Bureau of Labor Statistics, 40 percent of the national workforce was either fired, laid-off, or had quit a job during 2005-2006. While difficult to calculate because of many intangible factors, estimates of the cost of employee turnover range anywhere from 25 to 200 percent of an employee’s salary. But replacement costs even for a minimum wage job can be significant, especially to a small business owner like Bryan. Applying even the most conservative 25 percent estimate to a full-time minimum wage job adds up to a rehiring and retraining cost of \$2,500 per lost employee.

Approach One says that the most critical need for a successful American workforce is developing employees with a set of basic work skills, the ability and willingness to solve problems, and sound character. In this view, our prevailing cultural emphasis on hyperindividualism and instant gratification has eroded a sense of responsibility, concern for others, and the simple capacities for teamwork and work ethic that form the basis of any successful work endeavor. We are raising a generation unable to perform even the basic tasks that create a healthy economy.

According to this approach, the biggest present threat to a flourishing job market is a lack of workers who will show up for work on time and work hard all day. A leader of one business association says one of her members' biggest challenges is finding workers who can pass a drug test.

A man in California sums up the way many people feel: These young kids, they'll come to the job and they'll quit. They get upset and they just quit, go somewhere else. They don't want to work hard. They just, literally they want to walk out of the front yard and pull money off the money tree in their front yard and go back inside the house, done for the day.

And the president of one manufacturing company says, "[It] gets back to attitude and commitment. And these qualities are needed whether one goes on to post-secondary education or not."

Basic Work Skills

What do we need to adequately equip students for successful entry into the job market? Obviously, the basics include strong reading, writing, and math skills.

Perhaps not so obvious, but equally significant, is the need for "soft" or "applied" capacities. A 2006 survey of business leaders demonstrates a clear need for training beyond the basic "three R's." Seventy percent of employers cited "deficiencies among incoming high school graduates in applied capacities, such as professionalism and work ethic," says the Conference Board survey *Are They Really Ready To Work?* These deficiencies include a lack of personal accountability, effective work habits, punctuality, capacity to work productively with others, and ability to manage time and workload.

Matthew R. owns a portable toilet company. Because of low performance on the part of his employees, he instituted a bonus pay policy as an incentive for meeting basic minimum employment standards, such as coming to work on time or completing service calls in a timely fashion. He says that there are many months he doesn't pay out any bonuses because no employees consistently displayed professionalism and effective work habits.

In Arkansas, a community college official says the most consistent problem for employers is the shortage of workers who can work with customers, show up on time, exhibit teamwork, resolve conflicts, dress appropriately, and work hard. Similarly, a workforce profile of Smyth County, Virginia, found that employers there view "soft" skills as more important than traditional "hard" skills, such as lathe machine operation or welding.

From the low-paying end of the spectrum to the high-paying end a basic group of desired work skills have been identified. An application for employment at Taco Bell states applicants need customer-service and social skills. Workers there will engage in organization and planning, as well as take on responsibility related to supervising and developing other workers. An application for an international post as financial accounting manager at Turner Broadcasting states that a qualified candidate will have good interpersonal skills, attention to detail, experience developing a small team, and the ability to organize and schedule work, among other skills. While the pay is better at Turner Broadcasting, the basic skill set does not differ greatly from that expected at Taco Bell.

Schools, business and community leaders, and families must each take a role in preparing students in these most basic skills. Proponents of Approach One hold that discussions of how best to educate future workers are moot if



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Employers often have a hard time finding employees who will "be polite, on time, who will show up, and who will show respect to customers and fellow employees."



Corbis

Sara Kim, of Clark, New Jersey, rehearses with the New Jersey All-State Orchestra in Atlantic City, which is composed of the top high school musicians in New Jersey. Courses in art and music can effectively teach cooperative problem-solving skills, which are demanded in the workplace.

they don't start with teaching the basic work capacities that keep them in a job. As one woman explained, "Until you can really have some pride in what you want to do and what you want to achieve, the rest is secondary."

Learning to Solve Problems

Approach One calls for a return to an educational approach that understands that life isn't a standardized test and equips students with skills that can be applied in a broad range of jobs. The emphasis on passing required multiple-choice assessments, which are presently required by federal and state educational policies, is counterproductive, in this view. It means that students miss training in the very things that make good employees.

Young people need capacities for creative problem solving. "Graduates aren't being taught to solve problems," comments one manufacturing corporation president. "They are reluctant to assume ownership for the processes related to their work and to seek to continually be interested in improving them." A sense of personal responsibility and looking for ways to solve problems is critical in today's economy.

Young people also need wider learning opportunities. The emphasis on accountability through testing can mean the death of elective courses. Courses in art and music can effectively teach cooperative problem-solving skills, which are demanded in the workplace. For example, at one high school in the Southeast the effort to meet federally required yearly progress standards meant enacting a policy that prevents students from taking electives. A

student who fails a portion of a required graduation exam is now automatically enrolled in a remediation course. For those students, the opportunity to participate in electives like art, music, or even extracurricular athletics is limited or no longer exists.

Recognizing these areas as essential to future success in jobs may require schools to place renewed emphasis on broader curricula. This could warrant substantial change in the classroom. According to a June 2005 Harris Poll, 93 percent of Americans believe that the arts are vital to providing a well-rounded education. Arts courses can offer students a means to learn many of the capacities employers are seeking. A community's museums, libraries, theater groups, and similar resources can supplement its school programs.

"Studying music encourages self-discipline and diligence, traits that carry over into intellectual pursuits and that lead to effective study and work habits," says a surgeon in Texas. Performing arts like theater and dance offer opportunities for collaborative problem solving, teamwork, and the development of strong interpersonal skills. A man in California agrees, "When you study music, it's a discipline. It's practice, practice, practice. So, you develop a work ethic."

And, of course, athletics—school sponsored or not—also teach discipline, hard work, and team spirit.

Margaret Ann S. was part of a strong theater program in high school, and says it prepared her for her current work as legislative correspondent for a U.S. senator. "Working on productions allowed me to develop my leadership skills as well as my ability to problem solve and

work cohesively in a team atmosphere,” she says. “I believe my experience in performing arts not only helped me identify my strengths as a manager, but also sharpened my ability to quickly problem solve and to truly think on my feet.”

Character Education

In discussing the deficiencies of today’s schools in educating young people for the world of work, many employers point to the lack of what might be best called “character education”—lessons that incorporate basic ethics, personal responsibility, and trustworthiness. As a man in Birmingham, Alabama, says, “I think there’s a moral component to this as well. Having a sense of responsibility, a sense of morality. Putting in the work they’re getting paid for and that sort of thing.”

In Wisconsin, character education is becoming a formal part of the curriculum. An article in the *Milwaukee Journal Sentinel* focuses on several approaches being taken in that area: “At Milwaukee’s St. Marcus Lutheran School, teachers now focus each month on a subject such as failure, poise, or hard work. They might ask the kids to illustrate hard work through a skit, or draw a picture showing what poise means to them.” Another initiative is the Best Men program in Milwaukee Public Schools, a program that uses mentorship to teach boys discipline and respect for others.

In Georgia, a charter school devoted to career training integrates ethics coursework into its curriculum, and the benefits are clear. According to a local manager of an employment firm, the emphasis that Central

Educational Center (CEC) in Coweta County puts on work ethic is a reason for the success of its students. She told CNN news that CEC students receive a work ethic grade in addition to a course grade. They are evaluated on attendance, ability to get along with others, how they work in a team, and their willingness to participate.

A Deeper Need

Much has been made of the need for highly educated workers in an information-based economy, which relies heavily on purely intellectual abilities, Approach One says.

To our detriment as a nation, current education policy has tended to downplay soft capacities, such as reliability, flexibility, positive work ethic, critical thinking, the ability to listen, and teamwork.

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According to U.S. Bureau of Labor Statistics projections of jobs and work sectors until 2014, many of the largest

A student is lifted through a gap in a web of string during a group challenge at a private boarding school in Massachusetts. The object of the challenge is for each student to pass through a different gap without touching the string. The aim of this and other exercises is to shape leaders in community building, public service, and business.



AP/Wide World Photos

and fastest-growing occupations are in service-related fields. Of the 30 fastest growing occupations, 16 are health related. These are strongly service- and people-oriented jobs requiring basic communication, interpersonal skills, and high levels of responsibility.

Many human resource professionals argue that these capacities are just as important as academic training. One consultant cited the case of John X. who was promoted to a project management position at his consulting company, despite the fact that his educational level was lower than others in the firm and his degree was outside his current field. His interpersonal strengths outweighed his training. John’s ability to be positive, to motivate people naturally with praise, and to be a skilled, optimistic leader bolstered what wasn’t listed on his résumé. This example demonstrates the power and the benefit of collaboration and teamwork capacities.

In this view, we have missed the boat. According to a 2006 article in *BusinessWeek*, entitled “What’s Really Propping Up The Economy?” 1.7 million new jobs have been added in the health-care sector since 2001. In that same time period, “businesses at the core of the information economy—software, semiconductors, telecom, and the whole gamut of Web companies—have lost more than 1.1 million jobs. . . .Those businesses employ fewer

Americans today than they did in 1998, when the Internet frenzy kicked into high gear.”

The article further makes clear that even with the best predictors and indicators of future needs, the job market can shift in unexpected ways, as it did in relation to the technical information economy so widely touted in the late 1990s. No one can predict very far in advance what the job market of the future will look like. We need to prepare workers who will be productive regardless of what particular businesses or industries or as-yet-unknown technologies will rise to the fore. What workers need most, according to this approach, are the fundamental skills and core understanding that make effective employees.

It Takes a Village

K-12 education can play an important role in shaping character and discipline in the lives of young people, but this responsibility goes far deeper into the community than the local school system. Community agencies, families, fraternal and faith-based organizations, and businesses all have important roles to play.

Proponents of Approach One hold that parents have an obligation to provide their children with training in a strong work ethic and instruction in basic civility toward

Character Counts!

In 1992, the nonprofit Josephson Institute of Ethics hosted a gathering of experts in ethics and character education that culminated in the establishment of a national character education movement called Character Counts! The group set out to develop a list of core ethical values, later called the Six Pillars of Character.

Character Counts! a coalition of some 900 community organizations, implements, evaluates, and sustains character education in thousands of the nation’s elementary and middle schools, youth service programs, and other community and business organizations. Its mission is to help youth make better choices and to provide them with a framework for ethical living.



AP/Wide World Photos



Members of the Aniak Volunteer Fire Department, from left, Carolyn Kvamme, 16, Shauna Hamilton, 14, and Erinn Martiney, 15, pose together at the department in Aniak, Alaska. The teen volunteers train as medics and respond to emergencies in their tiny village. They must maintain passing grades and vow to abstain from drugs and alcohol to participate at the fire department.

others. Traditionally character education has begun in the home, and has been reinforced by faith-based and community organizations, such as scouting and sports leagues. These sorts of initiatives need to be supported financially and with volunteer time by community members. But not every child comes from a strong home. Personal capacities can be nurtured throughout the community. National initiatives, such as Character Counts! provide model guidelines.

Fort Dodge, Iowa, has a communitywide character-emphasis program in place through a local community action network. One part of its initiative is a Web-based discussion and activity guide for parents. Topics like citizenship, respect, caring, and responsibility are part of the guide.

Athletes for a Better World is another example of a community initiative designed to strengthen qualities valuable in the workplace. Athletes for a Better World was created in response to the increasingly negative public behavior of admired and emulated sports figures. The organization is “committed to changing the culture of sport.” It affirms the development of individual character, teamwork, and civic responsibility through commitment to a concrete athletic Code for Living. The code is designed to provide a foundation for life outside of sport. It includes commitments to teamwork, individual excellence, and caring behavior on and off the field.

Volunteerism is another means of nurturing the basic personal capacities required in the workplace say advocates of Approach One. A woman in Alabama explains the

reasons she has encouraged her daughter to volunteer at a local zoo. “I feel like it’s going to teach her responsibility and some social skills,” she says. “It’s going to give her a chance. To a point, it’s like a job. It is where she’s got to

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listen to somebody else tell her what to do in a controlled situation, as a boss has got to tell her what to do.”

Businesses and community agencies can offer internships or job-shadowing opportunities to young people to help teach and reinforce basic skills needed in the workplace. A stronger emphasis on service clubs and volunteer activities in formal settings like schools and churches can also support this effort. The Mantanuska-Susitna Borough School District in Alaska is one of many schools that

Aaron Adkins, 8, from Pleasant Crossing Elementary School in Witeland, Indiana, struggles with a bag of coats as volunteers for the LEAGUE sort donated coats for distribution to the needy in New York City. The LEAGUE was created by a consortium of leaders in business and education to create educational programs to teach children to serve their community.



Lambov

formalize volunteer service. The district’s schools allow students to obtain elective credit for 120 hours of volunteer service.

Concerns about This Approach

Critics say Approach One will prevent workers in the United States from meeting the deeper challenges of the future workforce. They point to the need for highly specialized training in a wide range of fields. They say there is no way to identify a truly “transferable” set of abilities that can practically prepare a worker for any sort of job. Critics allege that Approach One simply “dumbs down” the advanced training and technological skills needed for 21st century jobs. We may risk leaving out the “best and brightest” in an effort to train students of all academic levels in basic capacities.

Particularly, say critics, Approach One stops short of focusing on higher order thinking skills, such as innovation and creativity—capacities that are identified by many business leaders as essential for the workforce of the future. True flexibility and transferability come from developing the capacity for innovation and lifelong learning. “Lifelong learning is a critical connection people need to continue to pursue. People may have five or six jobs during their employment,” says Stephen Wing, director of government programs at CVS, a major drug store chain.

Others are concerned about Approach One’s preoccupation with character development: how do we define good character and who gets to do it? Critics see formal character education programs—particularly those receiving federal funds—as an open door to abusing the separation of church and state in the nation’s public schools. Furthermore, some critics say, the responsibility for character education lies strictly in the home. Decision

making about appropriate ethics and character training should not be publicly mandated or funded.

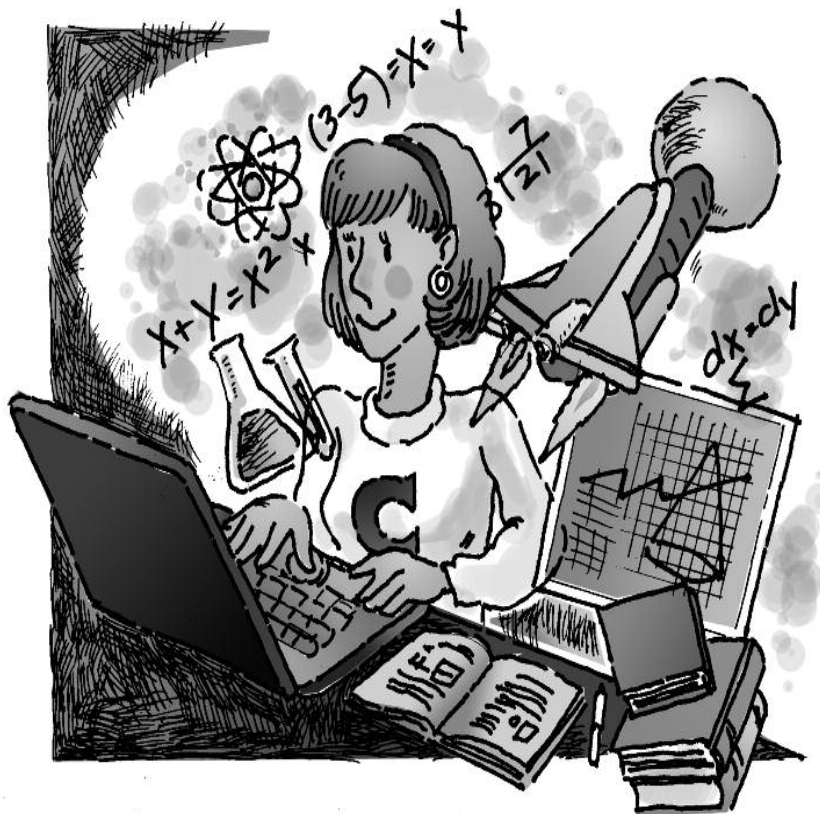
At the other end of the spectrum, some critics say Approach One doesn’t go far enough. They say we should concentrate our efforts on getting back to the “true” basics: reading, writing, and math. According to the U.S. Department of Education, 13 percent of 17-year-olds in the United States are functionally illiterate. Furthermore, we must give more attention to the harmful and widespread effects of high school dropouts. According to a 2005 education working paper by the Manhattan Institute, state high school dropout rates range from a high of 47 percent of students in one state to the nationwide low of 11 percent in another. We have to address these fundamental academic shortcomings in worker preparation.

Some critics are concerned that Approach One leaves the development of advanced worker capacities in the hands of business and industry. Employers may not want this burden. According to the American Society for Training and Development, companies currently spend about three percent of payroll dollars on employee training. An increase in business-based worker training would require more funding, which will inevitably translate into higher prices for the consumer. Employers struggling to keep their doors open would not be able to shoulder the increased financial burden of specialized skills training.

Trade-Off

Some capacities advocated by Approach One, such as teamwork or leadership, are not as easily measured in the short term, as are math or reading. Educators, community leaders, and parents would have to be able to live with the uncertainties of measuring success over a longer period of time.

Technology, math, and science are the keys to our economic future. If American young people are to hold their own in tomorrow's marketplace, it is critically important to improve the number and rigor of K-12 courses.



>> Academic Competition

BRADLEY J. HAD a strenuous junior year. The Loudoun County, Virginia, student took Advanced Placement courses in calculus, physics, and chemistry at Freedom High School, while at the same time preparing for and taking the SAT—all in preparation for college, where she plans to pursue a math degree. Bradley's rigorous course load and her intended career put her in the minority of American students. That's unfortunate, according to Approach Two, because the road to a successful future workforce and a competitive economy requires many more students like Bradley.

"Although our teens are heavy consumers of technology, they are not being educated or trained to be producers of technology," observed CBS News commentator Dan Dubnow in a 2006 story. "Are we too late to help America's teens reverse the sudden decline in scientific and technical leadership? Will today's high school students be able to maintain the technological edge that has provided America's extraordinary standard of living? Can they sustain the culture of innovation and scientific prowess that has given this nation the military and economic supremacy it has enjoyed for nearly a century?"

These concerns are worrisome to communities across the nation. Scientific and technological innovation has long been the backbone of America's global leadership, but in recent years, the United States has been steadily losing ground. Our economy was recently ranked sixth most competitive in the world, according to World Economic Forum's *The Global Competitiveness Report 2006-2007*. This is a dramatic fall from the first-place ranking our economy held in the previous year's report. This news, along with similar indicators, confirms the fears of many. The United States is falling behind in the face of an aggressively competitive global economy.

Thomas Friedman's 2005 bestseller *The World Is Flat* outlines the increasingly level global playing field. Friedman calls it Globalization 3.0. Nations like China and India have become an integral part of a global supply chain. Ever-increasing technological innovation allows for a great number of jobs previously held by Americans to be outsourced to more flexible and cheaper labor pools overseas. U.S. workers are losing out.

Friedman is among many who recognize that there is no guarantee that the United States will be a permanent

AP/Wide World Photos



Brandon Smith draws equine blood into a tube as he participates in a session on becoming a veterinarian during a Guys in Engineering, Math and Science (G.E.M.S.) career fair for seventh-grade boys in Garden City, Kansas. The daylong fair gave students a chance at many hands-on-experiences as they explored 18 different career stations.

leader in the global economy. “The truth is, we are in a crisis now, but it is a crisis that is unfolding very slowly and quietly,” Friedman notes, “And this quiet crisis involves the steady erosion of America’s scientific and engineering base, which has always been the source of American innovation and our rising standard of living.”

Technology, math, and science are keys to the economic future. Nearly one million jobs in computer and mathematical science occupations will be added to the labor market through 2014, according to Bureau of Labor Statistics projections. But already, employers are turning

We must increase the number of workers with a background in science and math or our ability to compete in the world economy will be severely diminished.

their eyes overseas to find the well-trained graduates who are prepared to fill these positions.

Unfortunately, American students are faring less and less well in international academic comparisons. According to the National Science Board’s report *Science and Engineering Indicators 2006*, “In both mathematics and science, most students did not reach the proficient performance level,” indicating solid performance for their grade. “In both subjects, only about one-third of 4th and

8th grade students, and even fewer 12th grade students, reached the proficient level.”

But in this view, students must be more than just “proficient” in the core academic subjects that drive the engine of American progress. The continued prosperity of this nation in a complex and globally intertwined economy, depends on workers who can understand and use math, science, and technological skills at high levels.

A Rigorous Curriculum Is a Must

“As other nations increasingly focus on innovations in science, technology, engineering, and math, the United States cannot afford to fall behind. It is critically important to improve elementary and secondary math and science teaching in order to raise student achievement in these subjects, and prepare and motivate young people to enter these fields,” says John J. Castellani, president of Business Roundtable, an association of chief executive officers of leading U.S. companies.

Public opinion echoes the concerns of the business community. According to a 2005 survey of American voters and opinion leaders, 86 percent of voters believe “we must increase the number of workers with a background in science and math or our ability to compete in the world economy will be severely diminished.” As one parent notes, “I think what is happening is that, generally speaking, high school kids don’t have a sufficient foundation—in math and science particularly. And so they come to college and they shy away from math and science. And I think that that is a real lack in our educational system.”

Many other parents agree. Math and science skills are viewed as “crucial” and the “gateway to success in college and work,” by 63 percent of parents surveyed for *Reality Check 2006* conducted by Public Agenda. According to Approach Two the call to action is clear: schools should emphasize understandings and skills that prepare students for the global economy. Math, science, and computer technology are essential proficiencies.

This view is taken seriously in the state of Washington, where Governor Christine Gregoire has emphasized the need to prepare students for “the globally competitive job market of the 21st century.” State initiatives include reducing the size of math and science classes; offering additional training for math and science teachers; recruiting 750 new math and science teachers through incentive programs; and standardizing the math and science curricula across the state, so students moving from one district to another learn the same material.

Another means of bringing more academic rigor to the schools of America is through curricular programs such as Advanced Placement (AP) and International Baccalaureate (IB), advocates of Approach Two say. Exposure to such courses can create an interest in pursuing science, math, or technology majors in college, even for students who may not initially have had such interest. Writing in the *Washington Post*, Jay Matthews shares an anecdote describing four Maryland high school students who only fared marginally in high school AP chemistry classes, yet two of the four are now pursuing engineering degrees, one at Virginia Tech and the other at Georgia Tech.

According to Approach Two, high schools must strongly emphasize AP and IB courses, which teach college-level material and emphasize critical-thinking skills. Among

groups that share this perspective is the National Academies of Science and Technology. The organization calls for increasing the number of students who take and pass at least one AP or IB exam each year to 700,000 by the year 2010.

Approach Two sees teacher recruitment and training as a key to improved student performance. To implement a more rigorous program of math, science, and technology, teachers must be given ongoing training and support. Initiatives like the American Innovation Proclamation call for improved student achievement in math and science. This 2007 appeal to Congress, signed by 270 corporate CEOs and university presidents, asserts that a key way to achieve this improvement is through “increased funding of proven programs and incentives for science and math teacher recruitment and professional development.”

The American Innovation Proclamation calls for doubling basic research budgets for science-oriented federal agencies, increased funding for recruiting and training science and math teachers, reform of U.S. visa policies, and strengthening of R&D tax credits.

American Innovation Proclamation

We, the leaders of American business and higher education, call on Congress to act quickly on an innovation agenda that will ensure continued U.S. competitiveness, enabling Americans to succeed in the global economy.

Innovation leadership creates high-wage jobs and rising incomes for Americans. Innovation drives productivity and economic growth, giving American workers the tools to remain the most productive in the world and creating products, processes—and even new industries—that expand employment and boost living standards.

The United States has remained the world's innovation leader through a commitment to basic research, a world-class workforce and a climate that rewards innovation. But America cannot rest on past economic success. Our competitors are investing in innovation, improving their competitive position and, in some respects, surpassing us.

Therefore, Congress must act to:

Renew America's commitment to discovery

by doubling the basic research budgets at the National Science Foundation, the National Institute of Standards and Technology, the Department of Energy's Office of Science and the Department of Defense;

Improve student achievement in math and science

through increased funding of proven programs and incentives for science and math teacher recruitment and professional development;

Welcome highly educated foreign professionals,

particularly those holding advanced science, technology, engineering, or mathematics degrees, especially from U.S. universities, by reforming U.S. visa policies;

Make permanent a strengthened R&D Tax Credit

to encourage continued private sector innovation investment.

We, the signatories, hereby proclaim our support for these initiatives and stand ready to do our part.

Craig R. Barrett

Craig Barrett
Chairman
Intel Corporation

Richard K. Empton

Richard K. Empton
President & CEO
Texas Instruments

Carl T. Zober

Carl T. Zober
President & CEO
Bullitt

Art Ryan

Art Ryan
Chairman & CEO
Prudential Financial, Inc.

Harold McGraw III

Harold McGraw III
Chairman, President & CEO
The McGraw-Hill Companies, Inc.

Norman R. Augustine

Norman R. Augustine
Former Chairman & CEO
Lockheed Martin Corporation

Charles O. Holliday, Jr.

Charles O. Holliday, Jr.
Chairman & CEO
Dixie Post

Nicholas M. Donofrio

Nicholas M. Donofrio
Executive Vice President,
Innovation & Technology
IBM Corporation

Robert C. Dynes

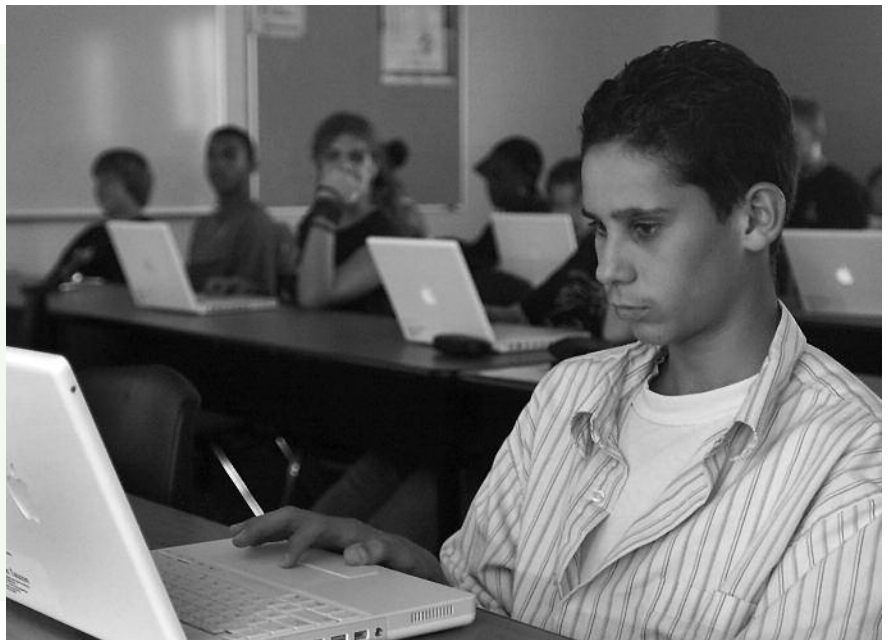
Robert C. Dynes
President, University of California

Additional Signatories on the back.

Courtesy of AEA (American Electronics Association)

Freshman Julian Tarazon works with his Apple laptop computer in class at Empire High School in Vail, Arizona. Empire High School, which issued Apple laptop computers to every student instead of traditional textbooks, was among the first public schools nationally to make this electronic leap.

AP/Wide World Photos



The business community itself can and should support this training, according to Approach Two. Companies could provide or support cost-effective professional development and other technical assistance to teachers. This would serve to keep educators abreast of current developments in their fields and prepare them to teach new content effectively. The Mickelson ExxonMobil Teachers Academy, for example, gives elementary teachers in Virginia, Texas, and Louisiana the chance to participate in five-day training programs to enhance their math and science teaching skills. The 600 participating teachers share best practices and receive instruction on motivating students in these subjects.

Programs like Geek Squad Summer Academy, an all-girls technology camp held in the Chicago area for the first time in the summer of 2007, demonstrate the success of such educational programs. One Geek Squad participant, a 13-year-old named Lauren, told a reporter, "I thought computers as a career would be boring. But it's so much fun. I changed my mind. I can see me doing this as a job." A 16-year-old camper found empowerment through rebuilding a computer from scratch, something she had never previously imagined being able to do.

Similar hands-on exercises can help youngsters use developing technology in a meaningful way in the classroom. Interactive technologies like SMART Boards allow students to view Web pages or project their own video presentations in classes. As one woman puts it, "A lot of schools need to focus on technology; computers play a very important part. And some people don't know how to use computers."

In 2006, Michigan became the first state in the nation to mandate that all students take an online course or participate in an online learning experience in order to graduate

from high school. But such a requirement is just the beginning, according to Approach Two.

In several states across the country, school systems have created "laptop high schools." On these campuses every student is issued a laptop computer. Students take class notes on the computers, no longer carry books, and do their homework assignments on the Web. A laptop program implemented in Nebraska in 2004 was studied by independent researchers from the University of Nebraska. Students reported increased willingness to write essays and complete assignments, and a majority of teachers reported increased efficiency in enrichment activities. Other high school campuses report more individualized education opportunities for students, among other benefits.

Proponents of this approach say that in order for American workers to compete in a global economy, this type of environment should be the norm, not the exception.

The Need for Accountability

Federal educational policy currently points the way to more rigorous standards. President Bush called for the reauthorization of the No Child Left Behind Act in his 2007 State of the Union address. In so doing, he echoed the voices of many who affirm the need for strong accountability in meeting the academic goals set for K-12 education.

The lack of such accountability has caused a decline in achievement in many of today's schools, according to Approach Two. Joe A., who lives in California, recently made a career switch. His new job required that he take several skills tests alongside other new employees, many of whom were recent graduates. He says the younger workers who tested with him were struggling to do a basic math

test. “I hadn’t done it for over 20 years. And I walked in without studying it, and I still passed it,” Joe says. “But the thing is, these kids just got out of school, and they couldn’t pass the test.”

Accountability for our schools ensures that students are learning what they need to know to be globally competitive. Policies like No Child Left Behind require demonstrated fulfillment of educational standards through measurements like Annual Yearly Progress. This reporting gives communities and parents the assurance that schools are responsibly preparing students for the future—particularly in core areas like math and science that are so critical to our economic prosperity.

In 2003, just 57 percent of students taking proficiency exams at North Glen Elementary School in Glen Burnie, Maryland, rated proficient in reading, while 46 percent in this high-poverty school were proficient in math. Knowledge of these test results provided educators at the school with the impetus and the guidelines for dealing with identified deficiencies. By 2005, those numbers had risen to 82 and 84 percent, respectively. African American students improved their math proficiency by an impressive 47 percentage points.

Proponents for Approach Two say these sorts of measurable results show that American education is on the right track as it develops more demanding standards. Quantitative measurement not only provides guidelines for improvement, but also creates the capacity to reward those who demonstrate success. These rewards can and should be distributed not only to individuals, but also to school systems. Rewards motivate schools to produce better quality education.

Finding Ways to Attract Students

In Portland, Oregon, Amanda B., who planned for a science career throughout high school, blames popular culture for downplaying the importance of academically rigorous career choices. “I think it’s pop culture’s fault,” the 18-year-old told a Portland reporter. “If you read magazines like *Seventeen*, they tell you about makeup and dating, but there’s nothing in there that ever says, ‘Go into a career in math.’”

But what is to be done if American students don’t want to pursue careers in fields like math, science, and technology? Indeed, statistics in this area are alarming. One indicator comes from ACT, the nonprofit testing organization. In 2002, ACT found that of the 1.1 million high school seniors in the United States who took a college entrance exam, just under 6 percent indicated plans to pursue a degree in engineering—nearly a 33 percent decrease in interest from the previous decade.

Elizabeth G. was a student at a rural Ohio high school, located several hours away from a major university. She had no real interest in pursuing a math-related career, but she took as many advanced math courses as possible in high school because she thought they would strengthen her transcript and better her chances for getting into college.

She saw the opportunity to go to college as a means of leaving her rural roots.

Approach Two says that one means of motivating many young people to pursue careers in critical fields like math, science, and technology is to capitalize on their desire for upwardly mobile careers. For young people who are



Michael Leonardo measures the waist of his son, 6-year-old Mike, at Walberta Park School’s Family Math night. Parents and children work on various math activities to help students see that math is fun.



AP/Wide World Photos

Student Joel Zwahlen, left, and team mentor Kentaro Takamatsu prepare their team's robotic car entry for races at the Kansas Technology Center on the Pittsburg State University campus in Pittsburg, Kansas. The race was the culminating event in a workshop, sponsored by the university, that trains elementary and middle school students in robotics.

anxious to have all the benefits of a mobile lifestyle, a math, science, or technology career can often mean moving to a major university or large urban center.

According to Approach Two, partnerships between K-12 schools and the business community can also help direct the flow of students toward careers in science, math, and technology. One such partnership is Tapping America's Potential (TAP), a coalition of business organizations whose goal is to double the number of science, technology, engineering, and mathematics graduates with bachelor's degrees by 2015. TAP's multipronged approach to meeting this goal includes a national campaign to help communities, parents, students, and employees understand the critical role math and science play in individual success and national prosperity.

The State Scholars Initiative sends scientists, engineers, and other professionals into middle school classrooms to inspire students to enter careers in these fields. The program operates in 24 states with the goal of motivating students to complete rigorous high school coursework preparing them for college and careers in math, science, and technology.

Proponents of this approach say partnerships are vital not only with the business community, but between K-12 schools and institutions of higher education. The National Science Foundation's Math and Science Partnership program, founded in 2002, pairs university faculty with local schools. Activities include in-depth teacher training, developing units of study to sustain student interest in the sciences, and aligning high school mathematics and science courses with those of partner universities.

K-12 educators and particularly high school guidance counselors can also challenge students to higher academic

rigor. For example, some counselors direct students to explore programs like LifeWorks, an interactive online career information Web site sponsored by the National Institutes of Health. This Web site promotes awareness of the variety of occupations in the fields of medical science and health care. Many other sources of career planning information are available online and through school counseling offices.

Approach Two also holds that families and parents must emphasize the importance of rigorous education for future success in the workforce. Studies show that parental and family influence is critical in forming future career goals for an adolescent, but only five percent of parents questioned in a 2005 national survey on math and science competitiveness said they would urge their children to consider careers in science, technology, engineering, and math. "Even though Americans believe we must increase the number of workers with a background in science and math or it will hurt our ability to compete, parents overwhelmingly are not willing to persuade their children to pursue careers in those fields," the survey summary reports. Parents must encourage the pursuit of academic excellence and help direct students to careers that offer long-term future competitiveness, according to Approach Two.

Our Future Depends On It

By emphasizing a rigorous academic curriculum and holding teachers and schools accountable for high standards, we can bring American students back to the top of international academic performance and our economy back into prime competitiveness. Rather than spend our

efforts on back-to-basics approaches, which will set us back years in terms of economic innovation, we must focus on global leadership in academics and economics. With this approach, communities, parents, schools, and businesses can all help attract students to math, science, and technology fields—an effort that will result in a stronger, more prosperous nation for all.

Concerns about This Approach

Critics of Approach Two say it doesn't address the "big picture" because it defines educational success in very narrow terms. What about students who aren't interested in, or capable of, careers in science, math, or technology? Approach Two virtually ignores all the segments of our economy that are not driven by science, math, or technology. The Bureau of Labor Statistics projects strong job growth in other fields, including many new jobs in the service sector. This approach neglects preparation for jobs that don't require great proficiency in science-related fields.

Similarly, critics fault Approach Two for widening socioeconomic gaps. It leaves out those who are not high achievers on standardized tests and penalizes special needs students. According to the U.S. Chamber of Commerce, fully one-third of jobs created in the first decade of the 21st century do not require education beyond high school. In the race to promote a high-tech future, we are emphasizing rigorous academic courses for many who will never need them, and in some cases, setting up students for academic failure. Disenfranchisement of at-risk students threatens to push the already high rate of high school dropouts even higher. As a result, Approach Two leaves more people behind to be dealt with in the social work and criminal justice systems.

A 2007 report by the Center for Benefit-Cost Studies of Education shows that boosting high school graduation rates would save taxpayers an average of \$127,000 per graduate. Researchers factored in conservative estimates of costs like welfare, public health, crime and justice, and lost tax revenue represented by each high school dropout. The same group of researchers released a report in 2005 showing that the United States loses hundreds of billions of dollars annually when young people fail to complete high school.

Critics also say we don't have the teachers or resources available to implement this approach. The reality is that the quality of public education varies widely. While school districts with well-heeled business partnerships might be able to create laptop high schools, many schools don't even have enough computers to put one in each classroom. Additionally, critics point out, many schools are struggling to find enough qualified teachers in the fields of math, science, and technology to staff minimum course offerings. They can't address the additional advanced

courses suggested by Approach Two. The 2004 report, *Teaching at Risk*, issued by The Teaching Commission, found an overall shortage of qualified math and science instructors. A 2006 follow-up report by the same commission notes, "In high-poverty schools, secondary classes in core academic subjects are nearly twice as likely, compared to classes in low-poverty schools, to be assigned to a teacher lacking even a college minor in the subject being taught."

An emphasis on measurable accountability through testing may mean we miss recognizing the students who are truly innovative but don't test well. "Global competitiveness depends on students' abilities to innovate and invent, not on their test scores," agrees Yong Zhao, professor and director of the U.S.-China Center for Research on Educational Excellence at Michigan State University. This approach runs the risk of failing to nurture entrepreneurial talents and skills, which play an important role in our economy.

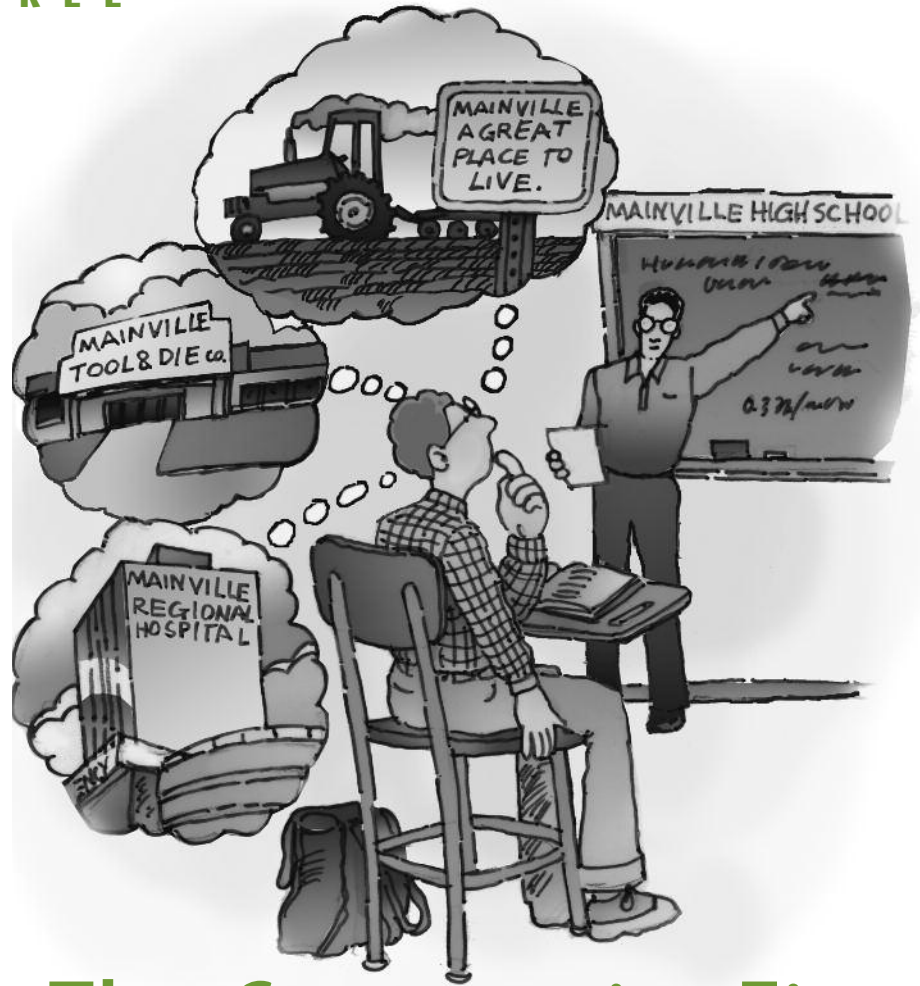
Finally, by defining success strongly in terms of global competition, Approach Two disregards the other elements of work and community life that bring about fulfillment or define success. Quality-of-life issues at community levels may be sacrificed in the effort to maintain global academic and economic dominance.

Trade-Off

By focusing on global competitiveness, we risk losing our youth to jobs they can fill only by leaving their hometowns, thus undermining the strength of local communities and the businesses and industries in them.



Community and educational goals should be created with the needs of the local economy in mind.



>>The Community First

LOCAL BUSINESSES FORM THE BACKBONE of a community's economy, and frankly, say advocates of this approach, the situation is dire. America is not producing the human capital necessary to meet current or projected needs for employees. Critical, immediate needs for productive workers are threatening the ability of local businesses to stay in operation.

In this view a community-first focus is imperative to maintain stability in our economy. Companies need local workers with appropriate skills. Thus, a strong link between business and education is essential. Educational goals should be created with the needs of the local economy in mind. But this is no shortsighted, short-term solution, advocates say. Meeting these community needs is more than just providing workers. A community-first perspective aims at building stronger communities as well.

Not everyone lives in a large population center. Not everyone works for a multinational corporation. And not everyone wants to.

In fact, only 50 metropolitan areas in the United States have a population of more than one million people. Most

cities and towns have far smaller populations. Firms with less than 500 employees—small businesses—make up 99.7 percent of all employers, according to the U.S. Small Business Administration. The vast majority of businesses in the United States are considered regional or local in scale. And one-half of all workers employed in the private sector are working in small businesses.

So much is made of our efficient and mobile society that another fact is often overlooked. The majority of Americans are not moving. In fact, most of us stay put. More than one-half of Americans did not relocate between 2000 and 2005, according to the U.S. Census Bureau. Of the Americans who did move, only 20 percent of them moved outside their own county. Sixty percent of people in the United States live in the state where they were born. In other words, Approach Three emphasizes that most people are not crossing the country in search of good jobs.

What this means is that most people are vested in their local geographical area. Focusing on the needs of our local businesses and economies is a service to the majority of

Americans, and it pays some excellent side dividends as well, say advocates of Approach Three. The best course of action for K-12 education and related community resources is to be responsive to the needs of the economies in their area.

Benefits of Local Economic Focus

Emphasizing education that will support and strengthen the local economy is not just a good idea because it serves the majority. Approach Three has many additional benefits, say those who support this view. Focusing locally creates stronger community ties, creates the networks and relationships that bring happiness, and is better for the environment.

In *Deep Economy: The Wealth of Communities and the Durable Future*, author Bill McKibben describes economies that are more local in scale as a hopeful contrast to our current way of thinking. “Local economies would demand fewer resources and cause less ecological disruption; they would be better able to weather coming shocks; they would allow us to find a better balance between the individual and the community, and hence find extra satisfaction,” he writes.

Because they are smaller, local and regional economies are more flexible and better able to respond to challenges brought about by outside factors. According to one analyst, small businesses act as shock absorbers for fluctuations in employment caused by downsizing and globalization. And more often, smaller, local businesses are looking for more employees, not laying them off.

Beyond economic returns, the emphasis on a hometown job has the benefit of strengthening community ties. This offers a sense of security that can bolster personal

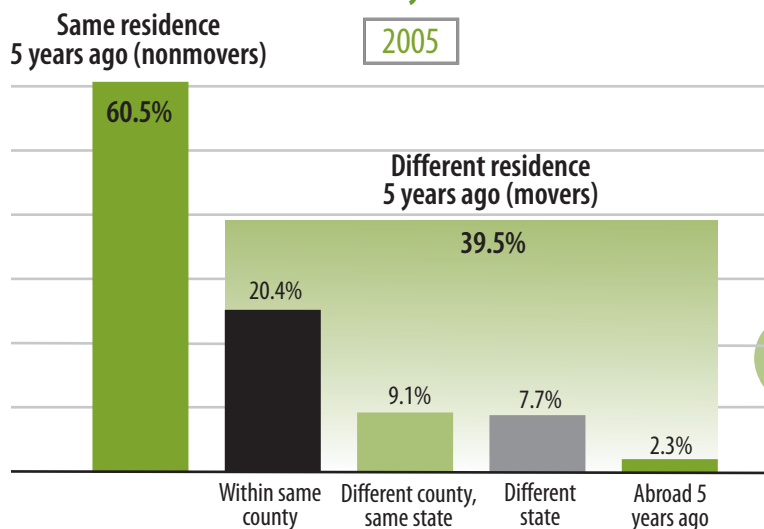
well-being. McKibben says, “When people live near where they grew up, within reach of family and old friends, their lives are more stable and their marriages are less likely to falter.” Indeed, many recent studies have found that unbridled economic growth and financial advantages have not made people happier. If affluence and mobility increase our isolation, a return to community life and strong local ties may serve as an effective antidote.

Public involvement in local schools is an excellent way to bring about positive change in a community. In Mobile,

According to one analyst, small businesses act as shock absorbers for fluctuations in employment caused by downsizing and globalization. And more often, smaller, local businesses are looking for more employees, not laying them off.

Alabama, “People are getting genuine ownership of their public schools,” says Carolyn Akers of the Mobile Area Education Foundation. A recent profile in *Parade* magazine describes a partnership between business, civic, and education leaders that has spelled a turnaround for Alabama’s largest school district, which was scheduled for state takeover in 2001 because of dismal student test scores.

Most Americans Tend to Stay Put



Source: U.S. Census Bureau

The most important improvements came in terms of partnerships and human capital. One Chamber of Commerce official told *Parade*, “A lot of people cared, but didn’t know what to do. We told them, ‘Your money is great but let us have your brainpower. Help make real-world business lessons translate into the classroom.’” The resulting apprenticeship programs and business-education partnerships have led to an increase in test scores and college scholarship monies, as well as an increase in students choosing careers that benefit the local economy—particularly in the health-care industry.

Embracing a local focus in education and employment can mean more opportunity for public involvement in decision making and planning, as the example from Mobile illustrates. According to proponents of Approach Three, pressing federal educational mandates, which focus solely on global competitiveness, take local leaders and parents out of the decision-making process. Even teachers often feel helpless about making substantial contributions to decision making about systemwide educational objectives.

Education and Business Partnerships

Voices from across the nation and at all levels call for more collaboration between education and business, advocates of Approach Three point out. “Greater communication and collaboration between the business sector and educators is critical to ensure that young people are prepared to enter the workplace of the 21st century,” says Richard E. Cavanagh, former president and chief executive

officer of the Conference Board, a national business research organization.

In Vermont, a statewide Chamber of Commerce Business-Education partnership encourages businesses to provide classroom speakers to local schools, to mentor students, to offer job-shadowing opportunities, and to provide teacher internships during the summer. Internships enable educators to see firsthand the demands of various work settings and incorporate their findings into lesson plans and classroom teaching. Making connections between classroom instruction and future work demands can be a strong motivator for students. These kinds of commitments by local companies can increase the pool of qualified applicants to meet workforce demands, say advocates of Approach Three.

One community college official puts it like this:

We need to get industry more engaged in taking their message to K-12 schools; and, in doing that, we need to establish collaboration between industry and the schools where industry would be involved in determining the school curricula.

In Florida, this sort of partnership has the force of law behind it, according to a report in the *St. Petersburg Times*. In 2007, the Florida Senate approved a bill “requiring all high schools to create career academies that graduate students with industry certification tied to the needs of area businesses.” The measure is part of legislative efforts to provide a workforce of young, educated workers with specialized skills that serve to fill the needs of the local economy and attract more industry. “It’s to make sure students who graduate can move on to good jobs,” says

Carolina Burgos-Vega, 17, left, uses a cotton swab to take a culture sample from classmate Milly Cheng, during medical careers lab class at Foss High School in Tacoma, Washington. The Tacoma school was one of the first in the state to offer high school courses in medical laboratory technology. Students learn lab protocol and how to obtain and test blood and other specimens. They receive a healthy dose of physiology, clinical chemistry, and microbiology.

AP/Wide World Photos



one state senator. “It’s to establish academically rigorous instruction that is relevant to the local economy.”

Better-trained workers for local jobs result when business and education are communicating about the needs of an area’s economy, say advocates of Approach Three. In Worcester, Massachusetts, these types of linkages are shaping up. In 2006, an area high school partnered with the state and two unions to create apprenticeship programs to train for regional jobs. A similar apprenticeship in Alabama sponsored by a Mercedes Benz plant offers on-the-job apprenticeships to local high school students.

Parents and students also see the benefit of linking class work to future job opportunities. According to a national 2006 survey, 71 percent of parents believe that updating classes to match skills employers want will improve high school education in the United States. In that same poll, 68 percent of students surveyed expressed the same opinion.

Not Everyone Goes to College

When business and education collaborate in planning, a different picture of what should be taught in schools emerges. The current push to focus almost exclusively on college preparatory training in high schools overlooks a critical factor. Not everyone goes to college, nor does every student need to go to college to have a well-paying, satisfying career.

Plenty of good jobs don’t require a four-year degree, and businesses in some of those industries suffer because of a lack of trained workers, advocates for this approach say. As one construction contractor explains, “The manpower becomes a problem because, you can bid the work and get busy, but then you don’t have the skilled person to put on the job.”

A National Federation of Independent Business official says that by expecting all students to prepare for college, our society is doing itself and its citizens a disservice. She points to the need to fill jobs like middle managers, nurses, bricklayers, plumbers, electricians, roofers, mechanics, and body-shop workers—jobs and industries that may not be well served by a strictly college preparatory curriculum. “We’ve been ignoring, to a certain extent, most of the students who don’t go to college,” a member of the Florida School Boards Association told the *St. Petersburg Times*.

A great many future jobs will be in the health-care industry. “About 75 percent of such jobs require a two-year degree or less,” says a human resources manager at a St. Paul, Minnesota, hospital. “These jobs offer security, good pay, and the satisfaction of knowing that your work really does make a difference.” They are also jobs that will be increasingly important and available as the baby-boomer generation ages.

Community colleges, which are often uniquely able to respond to the changing needs in a local economy, are an

important part of the educational network that local businesses look to for the preparation of future workers. A strong connection between K-12 and community colleges is essential to meeting the demands of local businesses, say advocates of Approach Three.

A Targeted Approach

Another popular strategy for creating strong economies is to target local or regional interests. In Nebraska, for example, a collaboration of education and business called FutureForce Nebraska prepares students for employment in targeted state industries. This collaboration aligns curriculum at all levels to “meet the workforce needs of these industries.”

“Greater communication and collaboration between the business sector and educators is critical to ensure that young people are prepared to enter the workplace of the 21st century.”

—Richard E. Cavanagh, former president and chief executive officer of the Conference Board, a national business research organization

A curriculum based on career clusters is being implemented statewide in Texas. This program identifies 16 different career clusters that influence curricular decisions at all levels of public education. Various partnerships between business and education are in place throughout the system.

Decisions about which clusters to concentrate on are based on the resources of the local school and the needs of the local economy. In the Achieve Texas program, school curricula are aligned with the different clusters. Career awareness education begins in elementary school. Instruction transitions into career exploration in middle school. In high school, students take courses from within a specific cluster they identify as their career interest.

This kind of program values both college preparatory high school coursework and traditional vocational/technical education preparation. “It is based on the belief that the curricula of the 21st century should combine rigorous academics with relevant career education. When schools integrate academic and technical education, students can see the ‘usefulness’ of what they are learning,” according to information issued by Achieve Texas.



AP/Wide World Photos

Apprentice Daniel Hall, 17, a senior from Clinton High School, works on a fluorescent fixture that will go inside an elevator at the Schindler Elevator Corp in Clinton, North Carolina. While apprenticeship programs are most common in European countries like Switzerland, where Schindler's parent company is based, state figures show increased interest by North Carolina employers in offering such programs.

Similar programs exist in other states. Arkansas is moving toward career clustering through its “school within a school” (or academy) approach, which allows students to focus on the career area of their choice within a smaller learning environment. “The growing change to career academies at high schools in the area also helps students connect their education to their eventual entry into the workplace,” says one state education official.

According to *The Silent Epidemic*, a 2006 survey of high school dropouts, 81 percent said that more “real-world” learning opportunities would have helped keep them in school.

In Florida, Andrew Collins took advantage of a school with a career academy structure. After graduating from his high school’s construction technology academy, he went to work for an Okaloosa architectural firm as a draftsman. Not yet 20, Collins out-earns his mother. He is able to stay in the area where he grew up, while contributing to the local community that provided his education.

The link between school and future jobs is critical—particularly from the point of view of the student. According to *The Silent Epidemic*, a 2006 survey of high

school dropouts, 81 percent said that more “real-world” learning opportunities would have helped keep them in school. A survey of dropouts reported that students need to see the connection between school and getting a good job. Such connections could keep students in school, which is an added benefit to any community. One study notes that retaining just one-fifth of the current dropouts nationwide would translate into approximately \$18 billion a year in tax dollars that would no longer be directed to the public health, criminal justice, and welfare costs associated with high school dropouts.

Sometimes a very practical tie to local opportunity can bring about remarkable improvement in student performance and achievement. A man in Birmingham, Alabama, says his daughter, traditionally a straight-A student, began struggling academically in a large high school. As a junior she was accepted to an area career tech school to study health-care professions. This move has paid off; her father said, “She’s back to straight A’s again.”

Keeping Local Communities Strong

According to Approach Three, the issues of worker training and development of a strong future economy are best addressed from a local and regional perspective. America is composed of more than large urban areas or huge corporations. Approach Three calls for a diverse educational approach with an emphasis on practical, applied skills. Business/education partnerships that emphasize local needs ensure strong futures for students and well-trained workers for local businesses.

Concerns about This Approach

Critics of Approach Three say this view will leave students in the United States even farther behind their counterparts from other nations and will seriously undermine our position in the global marketplace. They assert that concentrating so heavily on local workforce development misses the big picture and will lead to a stagnant U.S. economy. That big picture involves innovation and interdisciplinary training, the opposite of the career-path tracking of Approach Three. “Innovation is inherently multidisciplinary in nature,” notes the 2004 report *Innovate America: Thriving in a World of Challenge and Change*. “The realms of science, politics, culture, business, health care, and education are becoming increasingly intertwined.” In fact, many call for “internationalizing” the K-12 curriculum with requirements for increased foreign language and more courses on global diversity and other cultures. A strictly local approach, critics say, would be a step backwards.

Furthermore, today’s economy is so globally intertwined that local economies are changing due to outside forces far beyond the control of local communities. For example, hundreds of thousands of textile and apparel jobs were lost in North and South Carolina as a result of outsourcing and global trade policy changes. This is clear evidence, critics say, that one cannot isolate the local economic picture from outside factors. To focus exclusively on uncertain local job opportunities is a risky educational endeavor. Furthermore, critics say, it would limit the future possibilities of students who want to pursue careers outside their hometowns.

Approach Three also ignores the realities that a community must face in spreading out economic risks, critics say. One of the best ways to ensure a healthy local economy is through economic diversity and the attraction of a wide range of businesses. If educational and community resources are simply focused on training for existing local jobs, what happens when companies needing other skill sets seek to relocate to a particular community?

In fact, this approach stops short of truly creating communities that would attract innovative and successful businesses and workers. “Flourishing, growing cities both create opportunities for existing residents to improve their skills and attract talented recent graduates and young professionals. How do they do it? By improving the quality of the urban environment and maintaining the diversity of

their residents,” notes a report for the Next American City.

Another problem, say critics of Approach Three, is the heavy emphasis this approach places on the role of the business community in determining educational outcomes and curriculums. While business and industry are certainly beneficiaries of strong schools and education, they neither pay for nor should determine the means, methods, or objectives of educational content. The purpose of education is far broader than merely serving the needs of local industry, say critics of Approach Three. “Capitalism can’t work without a sound education system,” says Florida Education Association president Andy Ford. “But it shouldn’t define our education system.”

And while local community life may have its benefits in terms of stability and family ties, Approach Three tends to ignore the positive impacts that information technology can have in keeping people in touch across distances and generations. With developments like Voice over Internet Protocol, long-distance teleconferencing over the Internet is an affordable communication option, and such technologies have served to virtually close the gaps of geographical distance.

Trade-Off

The heavy emphasis on meeting local business demands in designing a school curriculum may risk stifling the ability of young people to develop in the ways that best suit them.



>>Comparing Approaches

THE WORKPLACE our parents and grandparents contemplated as they went through school was a relatively stable landscape where the choices they made were often lifetime commitments. Today's workplace offers no such stability. The global economy and rapid advances in technology have made the job market into a place of shifting sands, difficult to negotiate and tricky to prepare for.

Today's marketplace has expanded to encompass the entire world. The TV sets we buy are made in other countries but many of the Japanese and German cars we buy are made in the United States. Our national airplane manufacturers not only compete with each other for a piece of business, but also compete with companies abroad. And the job you have this year may well have moved to India by this time next year. Or it may be done right here . . . by a robot.

We cannot control the rapidly changing workplace, but we can make and implement decisions about how to best equip our children to deal with it. We can, for example, heed the rising tide of complaints from employers that too many of today's young workers lack the most basic job skills and character traits required to succeed in the world of work. Or, our chief concern may be our nation's recent slide from its position as "king of the hill" in the global economy. A third alternative is to consider, above all, the needs of the community and its local businesses and industries.

This summary lays out these three views on the nature of the problem and corresponding options for action. It is designed to help you make decisions about these difficult questions and to seek some common ground for action in applying your community's resources to differing priorities.

APPROACH ONE

>>A Firm Foundation

Employers want workers who show up, take responsibility, and work hard with others. Business and industry can train workers for specific tasks. Communities, families, and schools must teach the problem-solving skills, character traits, and fundamental elements of a good work ethic that will serve employees well at any level in an increasingly competitive workplace.



In Support

- Basic work skills and capacities to work with others are transferable to any job.
- Building these capacities is everyone's job. It is not just the responsibility of schools.
- Communities profit from citizens who obey laws, respect one another, and work hard.

What Can Be Done?

- Teachers can integrate character education in the K-12 curriculum.
- Educators can diversify the school curriculum to include more arts and other elective courses that will help young people learn cooperative problem-solving skills.
- Businesses and community agencies can offer internship opportunities to students to help teach and reinforce basic workplace skills.
- Parents and schools can encourage volunteerism in the community.
- Community organizations, such as athletic leagues, choral and drama groups, faith-based organizations, libraries, and museums, can orient programs toward character development, teamwork, and other transferable skills.

What Critics Say

- This approach may be necessary but not sufficient. Our economy is changing so fast that basic work skills will not prepare our children to succeed.
- Many businesses are unwilling to add the cost of training employees in the specialized skills they need.
- Character education is a parental responsibility.

Likely Trade-Offs

- Some capacities advocated by Approach One, such as teamwork or leadership, are not as easily measured as math or reading in the short term. Communities would have to step away from the mind-set that looks to standardized testing to validate success. Educators, community leaders, and parents would have to live with the uncertainties of measuring success over a longer period of time.
- By attempting to provide everyone with a base set of desirable attributes, we may not offer our best and brightest students maximum opportunities to realize their potential.

APPROACH TWO

>>Academic Competition

The United States is losing ground in the global marketplace. Rigorous education with an emphasis on math, science, and technology is the key to productive workers and to U.S. global competitiveness. Schools and communities should emphasize and reward academic rigor. Success for individuals and the nation demands high standards and accountability for meeting them.



In Support

- Emphasis on math, science, and technology are the keys to regaining economic leadership in the global marketplace.
- Quantitative measurement not only provides guidelines for improvement, but creates the capacity to reward success.
- A rigorous background in math and science gives young people the best chance for upwardly mobile careers.

What Can Be Done?

- High-tech businesses can partner with schools to provide professional development and other technical assistance to teachers.
- Parents can emphasize the importance of a rigorous education for future success in the workforce.
- High schools should offer advanced-level courses that teach college-level material and critical-thinking skills.
- Educators can introduce interactive technologies into the classroom, beginning in elementary school.
- Community organizations—especially resources such as children’s interactive science and technology centers—can emphasize the importance of math, science, and technology, and they can offer young people introductory and continuing opportunities for experiences in those fields.

What Critics Say

- Our primary concern is the economic health of our community, not global competition.
- This approach ignores the large number of jobs that do not require high-tech skills.
- This approach also ignores the large number of students who do not have the aptitude for, or interest in, science and math.

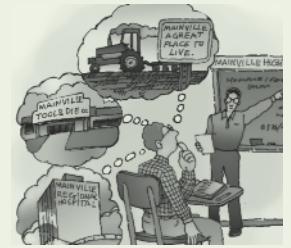
Likely Trade-Offs

- By focusing on global competitiveness and upward mobility, we risk losing our youth to jobs they can fill only by leaving their hometowns, thus undermining the strength of local communities and the businesses and industries in them.
- By emphasizing and rewarding achievement in these fields that often require additional college education, we may widen the gap between those who can meet these demands and those who drop out because they can’t.

APPROACH THREE

>>The Community First

There is a critical need for workers to fill jobs in local businesses. Companies need qualified workers in the places where the jobs are. We should focus on preparing workers for local jobs that are currently available or reasonably anticipated. Partnerships between business and education promise communities more immediate local prosperity and strong community ties.



In Support

- The prosperity of a community depends on the viability of its local businesses.
- We want to maintain the kind of healthy community our children will want to live in.
- Federal educational mandates focused on global competitiveness take local leaders, parents, and teachers out of the decision-making process. This approach gives us more control over educational objectives.

What Can Be Done?

- Businesses can collaborate with schools to help students and teachers make a variety of connections between classroom instruction and future work demands.
- K-12 schools can seek connections with community colleges, which are often uniquely able to respond to changing needs in the local economy.
- Educators can redesign curricula to encompass a diverse educational approach with an emphasis on practical, applied skills.
- States can align K-12 curricula to meet regional or statewide workforce needs.
- Community resources, such as libraries and museums, can feature the importance of local business and industry to the community’s history and prosperity.

What Critics Say

- Local businesses should not determine the educational objectives of our public schools.
- The local economy does not exist in isolation from its region. We have to think beyond our community’s borders.
- Global forces beyond our control will affect our future. We have to be prepared for an array of possibilities.

Likely Trade-Offs

- The heavy emphasis on meeting local business demands in designing a school curriculum may risk stifling the ability of young people to develop in the ways that best suit them.
- A continuing inward focus by the community may limit the vision and creativity needed to grow and change to meet new demands and opportunities.

Preparing Today's Kids For Tomorrow's Jobs

What Should Our Community Do?

Now that you've had a chance to participate in a forum on this issue, we'd like to know what you are thinking. Your conclusions along with those of thousands of others who participated in these forums, will be reflected in a summary report that will be available to all citizens, including those who took part in the forums, as well as officeholders, members of the news media, and others in your community.

	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Not sure
1. Do you agree or disagree with the statements below?					
a. Many of today's high school graduates lack basic work skills.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Meeting the needs of local businesses and industries is essential to the health of this nation's economy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Today's me-first culture has eroded the ability of young people entering the job market to work well with others.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. The United States is rapidly losing ground as a leader in the world economy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. There are many good job opportunities for young people who do not attend college.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Math, science, and computer technology courses are the keys to success in tomorrow's job market.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Schools cannot do it all; the full educational resources of the community must be used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. The future economy will require creative approaches we have not yet imagined.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. Do you favor or oppose each of these actions?					
a. More businesses and industries should collaborate with schools to educate today's young people.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. Schools should beef up requirements in math and science.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. Parents, community organizations, and schools should encourage young people to involve themselves in community service.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. Communities and schools should emphasize education that will support and strengthen the local economy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. Character education should be incorporated in the school curriculum.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. Communities should demand accountability for better performance in their schools.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. Communities must use all their educational resources (museums, libraries, theater groups) to assist schools in preparing young people.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. Communities must develop more ways to develop creativity and innovation in their young people.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- | | Strongly favor | Somewhat favor | Somewhat oppose | Strongly oppose | Not sure |
|--|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| 3. Do you favor or oppose the statements listed below? | | | | | |
| a. We must do more to instill basic work skills, such as responsibility, teamwork, and leadership, EVEN IF there are few, if any, ways to measure success in the short term. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. We must put more emphasis on teaching math, science, and computer skills, EVEN if this risks short-changing students who do not have aptitudes for these subjects and students who have other interests. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. We must focus community educational resources on preparing young people to meet the employment needs of local businesses, EVEN IF this results in limiting the educational horizons of some students. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

4. Are you thinking differently about this issue now that you have participated in the forum?

- Yes No

If yes, how?

5. In your forum, did you thoughtfully consider aspects of the issue you hadn't considered before?

- Yes No

6. What, if anything, might citizens in your community do together differently as a result of this forum?

7. How many National Issues Forums have you attended, including this one?

- 1-3 4-6 7 or more Not sure

8. Are you male or female? Male Female

9. How old are you?

- 17 or younger 18-30 31-45 46-64 65 or older

10. Are you:

- African American Asian American Hispanic Native American White/Caucasian
 Other (please specify) _____

11. Where do you live?

- Rural Small town Large city Suburb

12. What is your ZIP code? _____

Please give this form to the forum leader, or mail it to National Issues Forums Research, 100 Commons Road, Dayton, Ohio 45459.

National Issues Forums Institute

The National Issues Forums Institute's mission is to promote the use of public deliberation in schools, colleges, civic organizations, and religious institutions in the United States. The institute serves as a partner with public affairs television stations and other organizations that want to reach a wider audience. For almost two decades, the institute has collaborated with Milton B. Hoffman Productions to produce *A Public Voice*, a public television program examining what citizens think of issues affecting the nation. In addition, the institute develops some of the issue books used in National Issues Forums. The institute's directors are volunteers drawn from leaders in government, colleges and universities, libraries, civic organizations, the media, and medicine. For more information on the institute, visit www.nifi.org.

Kettering Foundation

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A Note about This Issue Book

Each book in the National Issues Forums series presents a critical public issue and several choices, or approaches, to addressing the issue. Panels of experts review manuscripts to make sure the choices are presented accurately and fairly. By intention, issue books do not identify individuals or organizations with partisan labels, such as Democrat, Republican, conservative, or liberal. The goal is to present ideas in a fresh way that encourages readers to judge them on their merit. Quotations from experts and public officials are used when their views are relevant to the issue, but the individuals who are quoted might not endorse every aspect of the presentation of the issue in the book.

Ordering Issue Books

This issue book is part of a series that includes other topics, including violent kids, campaign spending, public schools, urban sprawl, privacy and free speech on the Internet, jobs, alcohol, health care, terrorism, and Social Security reform. For additional copies of this and other NIF books please visit www.nifi.org.

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