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## **The Importance of Education**

**T**o become successful, it's critical to understand what's happening in today's world. Dramatic changes are taking place everywhere, and having an education is extremely important for you to understand and to take the necessary steps to benefit from these changes.

### **Technology Explosion**

The cause for these dramatic changes is the explosion of technology. Let's look at a simple operation, such as writing and publishing a book. To write my first book I used a typewriter. After cutting and pasting the manuscript and having to retype it numerous times, I finally sent it to the printer. The printer then retyped the book to make hard type in order to print the book. We still weren't finished with the book. We had to examine the hard typed copies for mistakes the printer had made in retyping. This was an extremely labor-intensive way of producing books.

### **The Arrival of the Computer**

Then computers arrived. It radically transformed writing and publishing. I was quick to embrace this labor-saving technology. With the aid of the computer I've written technical books and numerous full-color picture books. Today, we can take a full-color book, make a PDF file, and send the file directly to the printer by means of the Internet. The printer takes the PDF file and automatically produces plates to print

the full-color books. The printer never receives a hard copy of the book, it's all done electronically.

Computers have also transformed industry. My EDM (electrical discharge machining) company relies heavily on computers. We now do machine work that a few years ago was impossible to manufacture. Computers have dramatically reduced the cost of making many parts. You may visit our website at [www.reliableedm.com](http://www.reliableedm.com) to get an idea of this new technology and its remarkable capabilities. We also have a video and recording studio. Computers have dramatically altered the way videos and music are produced.

I've written the book, *Non-Traditional Machining Handbook*, which provides information on the latest technology concerning lasers, waterjets, EDMs, rapid prototyping, photochemical and electrochemical machining, and abrasive flow and ultrasonic machining. Dramatic revolutionary and labor-saving changes have taken place in industry. Under "The Machining Revolution," I stated:

From the earliest ages, individuals learned to use various hand tools to shape objects. As knowledge increased, the use of tools also increased. The industrial revolution arrived and introduced more sophisticated and precise tools such as drill presses, lathes, and milling machines.

Another revolution came—CAD/CAM (computer aided design/computer aided machining). Instead of manually moving machines, computerized programs were downloaded into machines and the operations

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proceeded automatically. The use of these machines dramatically increased productivity.

With the addition of high speed computers, these machines achieved faster processing times. Then fuzzy logic was introduced. Unlike bilevel logic, which states that a statement is either true or false, fuzzy logic allows a statement to be partially true or false. Machines equipped with fuzzy logic “think” and respond quickly to minute variances in machining conditions. They can then lower or increase power settings according to messages received.

Another great innovation was virtual reality for prototyping and manufacturing. Virtual reality is an artificial environment where any of the human senses such as sight, sound, taste, touch, or smell can be simulated. Virtual reality is simply a computerized experience of real world situations.

In virtual prototyping and manufacturing, a three-dimensional CAD image can be made into a solid part or model directly from the computer. In virtual reality, engineers can visualize and manipulate a 3D model and make any necessary changes before incurring hard tooling costs. This process of rapid prototyping dramatically reduces time and costs.

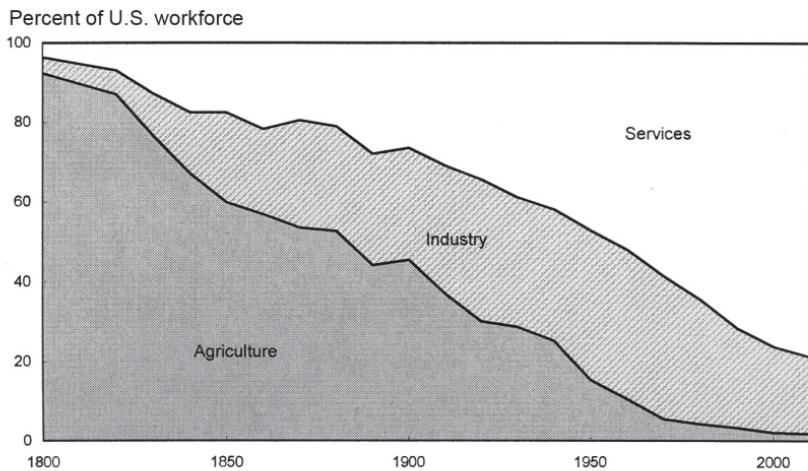
Other innovations include automatic tool changers, robots, workpiece and pallet changers, and artificial intelligence that enables machines to “think” through complex machining sequences.<sup>1</sup>

## Changing Structure of the U.S. Economy

Edward P. Lazear, Chairman of the Council of Economic Advisers, in a document to the Executive Office of the President on, “The Changing Structure of the U.S. Economy,” stated: “The United States, like all developed countries, has largely a service economy.”<sup>2</sup>

The document had this chart showing from years 1800 to 2000 how the U.S. has changed from an agricultural to a largely service economy.

### The U.S. has evolved from an Agriculture Economy to an Industrial Economy to a Service Economy



Note: Industry includes manufacturing, construction, and mining.  
Source: Federal Reserve Bank of Dallas.

This chart<sup>3</sup> is extremely important for those who will one day enter the job market. It clearly demonstrates the United States is today largely a service economy. Lazear pointed out:

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Like manufacturing, the service sector has benefited from technological advances in information technology and communication. The productivity gains that were associated with new technologies first showed up in manufacturing. But in recent years, productivity in services has been rising at almost the same rate as the high level of productivity growth in manufacturing.

We can continue to expect the demand for services to grow particularly in health and education. Changing demographics, particularly the aging population, will mean more demand for health care. Education has become all the more important in a modern economy.<sup>4</sup>

I want to emphasize in bold print the importance of this last statement of Dr. Edward P. Lazear. If you want to become successful you had better think seriously about Lazear's comment.

**Education has become all the more important in a modern economy.**

## **The Value of Education**

Modern technology has decreased the number of jobs in both agriculture and to a certain extent in industry. Today less than 2% of the U.S. population works in agriculture. People are not eating less; rather, farming methods have become extremely efficient. Large automatic machines now do most

of the farm work that used to be done by hand.

Today there are farm machines that use computer monitoring systems, GPS (global positioning system) for location, and self-steering systems that allow the machines to become more precise and more productive in the use of fuel, seed, and fertilizer.

The global economy and increased productivity have also caused declines in industry; however, finding employment in industry is still a very viable field with many high-paying jobs. In contrast, the service industry has exploded. This includes such industries as: transportation, utility, financial investments, insurance, teaching, wholesale, retail, professional, health care, social, entertainment, recreation, scientific, and technical services.

To earn decent wages you need to be educated. The chairman of the Council of Economic Advisers reports: “The median wage of a college graduate is now more than 70 percent higher than the median wage of a high school graduate.”<sup>5</sup>

In other words, if an average high school graduate earns \$50,000 a year, an average college graduate would earn \$85,000. That’s an extra \$35,000 a year! Think about it. For the rest of your working career, you’ll earn that extra money every year just by being a college graduate. For most students, it pays to go to college and earn a degree.

### **I'm Thinking of Quitting School**

Today the number of high school dropouts is a major problem. There are many high school students who are fed up with school and are thinking of quitting. It's a very tempting

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situation. These quitters are likely to shout, “Hooray! No more books; no more studying. This is great! I’m free at last. Now I can get a job, start earning money, and do whatever I want.”

Let me say in bold capital letters:

### **QUITTING SCHOOL IS THE DUMBEST DECISION YOU CAN MAKE**

Quitting school is the easiest road to take. But I warn you, you’re in for a real shock. You’re hallucinating if you think you can get a job, earn money, and do whatever you want. The world you will likely find yourself in because of your lack of education is minimum-wage jobs such as sweeping floors, cleaning tables, washing dishes, digging ditches, cutting lawns, stuffing envelopes, or being unemployed.

### **High School Dropouts**

I’ve asked students in my classes why employers would require job applicants to have a high school diploma in order to stock shelves. The students were puzzled that for such a simple job as stocking shelves an employer would require a diploma. The reason? High school dropouts are prone to be quitters. When the going gets tough, they quit. Dropouts have never mastered toughing it out when things get hard. That’s one of the key ingredients for success.

High school dropouts usually lack discipline. One of the greatest benefits of getting a high school diploma is it proves you have the stamina to stick it out. Put yourself in an employer’s shoes. If you had a choice of hiring someone who quit school or one who graduated from high school, who would you choose?

## **Earning Statistics Between Dropouts and High School Graduates**

Read carefully these shocking statistics from the U.S. Department of Labor: a person who has some high school education but no diploma earns 25% less money than a person with a high school diploma. In other words, if the person graduated from high school earned \$400 a week, the person quitting school who had some high school education would earn \$300. That's a loss of \$100 a week for the rest of their working career—just for quitting school! That's \$5,200 a year, or \$52,000 in ten years!

The person who quits school earns 54% less money compared to a college graduate with a bachelor's degree. In other words, a college graduate earns twice as much money as a school quitter.<sup>6</sup>

### **Excuses for Dropping Out of School**

1. My classes are boring and irrelevant.
2. I've been absent too many times to catch up.
3. My previous education didn't prepare me for high school.
4. I'm not motivated to work hard.
5. I'm failing most of my subjects.
6. I have a job offer.
7. I'm a parent.
8. I need to take care of a family member

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Let's examine the first five excuses for quitting school: boring and irrelevant classes, excessive absences, classes too difficult, unmotivated, and now failing most classes. Many of you giving these excuses were lazy and refused to do the assigned class work in the early grades. You didn't listen to your parents or teachers. You stubbornly refused to do your homework and skipped school whenever you felt like it. Instead of really trying to learn, you took the easy road. You goofed off. You were more interested in having fun with your friends than in doing school work. Now you're paying the price for your foolish behavior.

Since they kept promoting you, you felt you could keep on acting like this. But now in high school you must pass your subjects; otherwise you'll get failing grades. You're reaping what you sowed. Due to your lack of education, classes are now boring and difficult, and you want to take the easy way out and quit school altogether.

### **STOP AND THINK!**

Can you take a moment and stop and really think of the consequences for quitting school. Do you realize that dropouts are much more likely to be unemployed, to end up in prison, and to live in poverty? Dropouts are also more likely to be divorced, single parents, unhealthy, and earn much less money. Do you want this to be your future?

Let's look at the other three excuses for dropping out of school: receiving a job offer, being a parent, and needing to care for a family member. Just having a job offer, isn't a good

reason to quit school. The question should be, “What will your wages be ten or twenty years from now?”

I was on a men’s retreat, and a father told me about his 24-year-old son who was working as a waiter. Now working part-time as a teenager waiter going to high school or college is an excellent job. But there are much better jobs available when you’re older. His son now realizes that he had better find some other career. The problem is he has no experience. In contrast, his younger sister is in college and in a doctor of physical therapy program. She’ll probably start work earning three times the wages of her older brother.

The excuse for dropping out of school because you’re a teenage parent is a serious problem, and I’ll be discussing this later on. But you’re still much better off continuing your education than quitting school. If you need to earn money to support a family member, try to work after school and on weekends rather than quit school. Whatever you do, try to do whatever possible to earn at least a high school diploma. It’s critical for your future success. Don’t take the easy road and quit school. Instead, take advantage of the education you are now being offered. You’ll never regret staying in school.

### **I Don’t See the Value of Schooling**

Let me share my experience. I attended Grover Cleveland High School in Queens, New York. I took an academic course that required me to take algebra, geometry, and trigonometry. If it were up to me, I wouldn’t have taken these courses. When I began working as a tool and die maker, I discovered I needed

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to know algebra, geometry, and trigonometry. I brushed up on my math, and I've been using these three subjects to this day. My entire career would have suffered if I hadn't taken these subjects.

After serving in the Marine Corps, I went to college. One of the courses I had to take was English. If it were up to me, I would have skipped this "boring" subject. A few years ago I had the opportunity to speak at a large student assembly at the college I graduated from. I told the students that out of all the subjects that I took at college, in hindsight, English turned out to be my most profitable subject.

Why was English so important? It's because I do a lot of writing. And to be a good writer, one must know English. I want to make sure the books I write are grammatically right. I've written over 100 books, and some are yet to be published.

You may say, "I'm not a writer. Knowing English isn't important to me."

That's what you think. Today English is more important than ever. We're now corresponding with one another more and more with email. Do you want to look like a dummy when you write your email comments? You had better know how to write if you want to get one of those high-paying jobs that requires communication.

Did I see the future of what I would be doing when I was in high school or college? Absolutely not. I never dreamed of being a tool and die maker, foreman, tool designer, operations manager, teacher, assistant dean of boys, author, and owner of three businesses. Talk to your parents and others about their

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careers. You'll find many of them also had multiple careers. That's why it's good to get a broad education. You never know what might be in your future.

### **Be a Dummy and Quit**

“Schooling may have benefited you, but I still don't see any value for me.”

Is that the real reason you want to quit, or are you too lazy to take the hard road and begin studying and doing the things you know you should do? Booker T. Washington said, “Nothing ever comes to one, that is worth having, except as a result of hard work.”

You can take the easy road and quit. But don't gripe when you can't find a decent job and employer after employer rejects you. Yes, there are always minimum paying jobs available, but one day you may get married and have kids. To support your family with a decent life, you may have to work two jobs to survive. Do you want this to be your future?

Some may want to quit school because of being bullied or sexually harassed. If that's the case, report these incidents to proper officials. Try to change to a different school. But whatever you do, don't quit. Getting an education is critical for your future success.

The U.S. Department of Labor states that the unemployment rate for high school dropouts is over 30 percent.<sup>9</sup> Since unemployed teens have more idle time, many end up with self-destructive habits, as drugs and alcohol. Some, unfortunately, end up supporting their habits by resorting to crime. By far most prison inmates are high school dropouts.

## **Solutions for Failing Students**

You have two options—quit school like a dummy, or buckle down and do everything possible to graduate. Okay, you messed up. You refused to listen to your teachers. You cut classes whenever you could. You had your fun; now you’re paying for it. Some of your problems could be from the faulty education you received. Regardless, you’re now failing most of your classes.

Face your problems and say with gutsy determination, “Whatever it takes, I don’t want to be a failure. I’m going to graduate from high school! I’m not ruining my entire future and earning much less money because I took the easy and dumb road of quitting school!”

Go to your teachers or school counselor and ask for advice on what you can do. Let me warn you, this won’t be easy. You’ll have to buckle down and begin to study and do your homework. Be willing to take remedial classes. Whatever you do, make sure you stick it out and graduate from high school. You’ll never regret it.

Who are your friends? Are they a group of quitters? If they are, find new friends. There’s an old saying, “Show me who your friends are, and I’ll show you what you’ll become.” Don’t let your friends drag you down. You’ll avoid many problems if you learn to choose your friends wisely. The path of failure is littered with those who followed their friends.

In some schools the “cool” ones are those who don’t study, don’t carry books, and cut classes. They mock those with books and label those who get good grades as “nerds.”

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One day the tables will be turned. These so called “nerds” who carry books and are interested in getting a good education will be the bosses of the “cool” ones who refused to study and cut classes when they felt like it. One day these uneducated “cool” ones will be sweeping the floors and taking the trash out of the offices of the “nerds.”

Wise up. Refuse to follow and listen to the crowd who ridicules education. These so-called “cool” ones are stupid. What employer will want to hire them except for low-paying work? Stiffen your back and be determined to do what’s right and not be a crowd pleaser. Envision your possibilities with an education.