

DOCUMENT RESUME

ED 222 701

CE 034 153

AUTHOR Watkins, Wesley W.
TITLE The Entrepreneurs of Entrepreneurship. Occasional Paper No. 84.
INSTITUTION Ohio State Univ., Columbus. National Center for Research in Vocational Education.
PUB DATE 82
NOTE 16p.
AVAILABLE FROM National Center Publications, The Ohio State University, 1960 Kenny Road, Columbus, OH 43210 (OC 84--\$2.25).
PUB TYPE Reports - Descriptive (141) -- Speeches/Conference Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Demonstration Programs; *Entrepreneurship; Financial Support; *Innovation; Job Development; Poverty Areas; *Program Development; *Rural Areas; School Role; Secondary Education; State Departments of Education; *Technical Education; Vocational Education; Work Experience Programs
IDENTIFIERS *Kiamichi Area Vocational Technical Schools OK; Oklahoma

ABSTRACT

The Oklahoma State Department of Vocational-Technical Education has initiated a national demonstration project to develop and implement an entrepreneurship curriculum stressing new product and process development. Designed to stimulate entrepreneurship activities and create jobs in an economically depressed rural area, the project will involve (1) the establishment of entrepreneurship classes at Kiamichi Area Vocational-Technical Schools in three Oklahoma cities; (2) the construction of general purpose buildings, called industrial incubators, at each site; and (3) linkage of each school with the Industrial Innovation Center in Durant, Oklahoma, via computer terminals. Each student participating in the program will be given a project to develop a new industry from innovative technology and to draw up plans for creating and operating a company to produce a new product or process based on the innovative technology. The industrial incubators will then be used to start up new businesses managed by the students. Thus far project developers have been successful in their campaign to change state guidelines to allow for construction of the schools at the proposed sites and have initiated construction of the industrial incubators. (MN)

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THE ENTREPRENEURS OF ENTREPRENEURSHIP

by

The Honorable Wesley W. Watkins
United States Representative,
Oklahoma

The National Center for Research in Vocational Education
The Ohio State University
1960 Kenny Road
Columbus, Ohio 43210

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For further information contact:

The Program Information Office
The National Center for Research in Vocational Education
The Ohio State University
1960 Kenny Road
Columbus, Ohio 43210

Telephone (614) 486-3655 or (800) 848-4815
Cable: CTVOCEDOSU/Columbus, Ohio
Telex: 8104821894

PREFACE

The renewal of the entrepreneurial spirit is critical to the improvement of current economic problems of the United States. It is especially needed in economically depressed rural areas. It is with great pleasure that the National Center for Research in Vocational Education presents this Occasional Paper by the Honorable Wesley W. Watkins, United States Congressman from Oklahoma on the development of entrepreneurs in rural America.

Congressman Watkins is a native of Bennington, Oklahoma, and grew up on a farm in that vicinity. He has been a member of Congress representing the Third District in Oklahoma since 1977 and was reelected for his third term with 91 percent of the district's vote.

Prior to becoming a congressman, he owned a home building and real estate business in Ada, Oklahoma and served as state senator in Oklahoma. He has a bachelor's and master's degree from Oklahoma State University, where he served as president of the student body. Congressman Watkins was also state president of the vocational youth group, the Future Farmers of America.

Congressman Watkins has gained recognition for his efforts to aid in the development of rural areas and as an advocate of equal treatment for small towns and rural areas. He is the chairperson of the Congressional Rural Caucus, and is also a member of the House Appropriations Committee, the Energy and Water Development Subcommittee, and the Agricultural and Rural Development Subcommittee.

On behalf of The Ohio State University and the National Center for Research in Vocational Education, I am pleased to share with you Congressman Watkin's presentation entitled: "The Entrepreneurs of Entrepreneurship."

Robert E. Taylor
Executive Director
The National Center for Research
in Vocational Education

THE ENTREPRENEURS OF ENTREPRENEURSHIP

In a recent speech in New Orleans, I concluded my remarks by asking a rather haunting question: Who will develop the entrepreneurs of entrepreneurship? I am certain that I will not have to define the term "entrepreneurship" to this audience today. Indeed, vocational agriculture has been in the forefront—has been the pioneer, if you will—of developing the entrepreneurs of entrepreneurship in agriculture. It was the vocational agriculture programs and instructors that established yesterday's young people in farming, ranching, and agribusiness. It was the vocational agriculture program that adapted new technologies and processes developed by our agricultural research and development programs and put them to use to increase agricultural production.

There are two primary reasons why the vocational agriculture program has been and continues to be a smashing success. First is the Supervised Occupational Experience Program and its application through the Future Farmers of America organization, commonly termed the "FFA project." I stand here today as a product of the FFA and vocational agriculture. As a young man and FFA member in Bennington, Oklahoma, I took new products and processes learned through vocational agriculture and put them into practice in my FFA project. This one simple concept, the FFA project, demonstrated to every FFA member, past and present, the value of implementing new technologies and processes. We saw the application work with our own eyes! At the same time, each of us became an entrepreneur. We established our own small business—raising a cow, a sheep, or a pig—and implemented the latest agricultural technology. In the process, we kept careful records of our costs, and at the end of the project, we sold our product—the cow, sheep, or pig—and determined our net profit (or loss). In this manner, each FFA member is introduced into the world of entrepreneurship, and it is the best hands-on business experience available.

The second reason for vocational agriculture's success is its emphasis on technology transfer. Sixteen percent of all agricultural research and development funds are utilized for technical transfer—adapting the technologies developed by agricultural research and development and putting them into practice on the farm or ranch. This technology transfer link is very important. No farmer or rancher is going to listen to a "pointy-headed scientist" from a United States Department of Agriculture laboratory. But they trust vocational agriculture teachers and county extension agents, because they are "one of them." The county extension agents and vocational agriculture teachers demonstrate the new technologies and processes at the local level. These demonstration projects have a high degree of visibility, and the local agricultural community watches them closely for signs of success or failure. If a project succeeds, the farmers and ranchers implement the new technology, because they have seen it work with their own eyes!

Now, what are the results of this program and how can we measure them? This is demonstrated quite effectively by a simple statistic. Only 3 percent of the United States population is employed as farmers or ranchers, yet this small segment feeds the entire country and half the world.

Unfortunately, the success of the agribusiness industry has not been repeated throughout the rest of the economy. The United States was the traditional world leader in productivity, but our industrial productivity has been in such a decline that, for the first time in over two decades, our productivity actually declined rather than grew. Additionally, the United States never posted a negative balance of trade during this century until 1971, but since that date, our trade deficit has continued to mount, and in 1980 reached \$20.3 billion.

The question is, who will develop the entrepreneurs of entrepreneurship to lead us out of this economic chaos? In the past, development of entrepreneurs has been left to three basic sources: (1) the major universities, (2) the Fortune 500 companies; and (3) happenstance, circumstances, and just plain old luck. Basically, these three sources have not provided the country with entrepreneurs. Perhaps the first two did not see the development of entrepreneurs as a part of their role.

Why do I make this indictment? Because two-thirds of all innovations come from small business persons, farmers, and "working people." The reason for this phenomenon is that, if you will allow me to modify the old adage, crisis is the mother of invention.

I have been here most of the morning, after flying from Atlanta, Georgia, and our discussion has focused on productivity, reindustrialization, and Washington supply-side economics. Yet in Washington, I see most of the things that the government has projected or proposed to develop entrepreneurs being wiped out by this administration. The government is saying that the private sector will do the job. The private sector, through tax incentives, will increase productivity, and through growth, create jobs. The only problem I have with that is that in my area, southern and eastern Oklahoma, a district of twenty-five counties that runs 300 miles one way and 200 miles the other way, there is virtually no industry. So private industry alone could not solve the problems of my district, even if there were tax incentives to pay for economic development.

Because my district lacks certain advantages, we make up for them in other ways. We rely on our own ingenuity to solve problems. In the petroleum industry, for instance, a large portion of modern drilling technology and processes were developed through the initial efforts of the tool pushers, roustabouts, and roughnecks of the drilling rigs. Faced with a difficulty—a broken tool or a smashed thumb—they went to work to find a solution, and in the process, found a better way.

You, the vocational educator, are on the front line of American industrial training. Likewise, you can advance to the front line of entrepreneurship and innovation. I submit to you today that there is a better way to train entrepreneurs. I submit to you that vocational education can and should be training:

"The Entrepreneurs of Entrepreneurship."

This is why I turned to the Oklahoma State Department of Vocational-Technical Education to initiate a national demonstration project to develop and implement an entrepreneurship curriculum stressing new product and new process development. This is especially important in my congressional district, since it is an economically depressed rural area of Oklahoma. We are taking entrepreneurial training a few steps further than ever before. This project will mark the first development of an entrepreneurship curriculum of this nature at the vocational-technical level.

This area of Oklahoma has had over 68 percent of its people migrate in search of economic survival—in search of a job. In this area, every other house is occupied by senior citizens. Ninety-four percent of the people who have left say: "We'd like to come home, if we could find a job within commuting distance of where we grew up."

In this area, we have an unemployment figure as high as 20 percent and a far greater amount of underemployment. In many counties, the per capita income is \$4,000 a year. We have boarded-up windows, and there is grass growing in the streets. I have devoted most of my adult life to trying to bring in industry, to build jobs. I hope and pray that President Reagan is right—I hope that business and industry have a social conscience, and will want to aid us in economic development. In the meantime, though, we are going to use ingenuity in carrying out our own program of economic development. I must confess I hatched this entire scheme of linking entrepreneurs and technological innovation as a means of building jobs. After many long, frustrating years, I have come to the conclusion that this is the only method to build jobs successfully in the areas of my congressional district experiencing chronic unemployment.

My experiences have taught me that there are only two basic ways to build jobs. The first and most obvious method is through plant expansion or relocation—that is, by convincing an existing company to relocate in an area or to build a new plant there. In the parlance of industrial development, this is known as “smokestack chasing.”

I personally spent many fruitless years in smokestack chasing. I found that this method was fairly successful in the larger cities, such as Tulsa and Oklahoma City, which have all the amenities the corporate executive seeks—an arts and humanities program, good schools, transportation facilities, adequate water and sewer systems, and police and fire protection. But try to interest typical corporate executives in locating a plant in Gerty, Oklahoma. They turn up their noses at any community with grass growing in the streets and boarded-up windows along Main Street.

These experiences led me to adopt the second approach to job development—developing new, small businesses from innovative ideas for new products and processes. To make this approach work, there are four questions an entrepreneur must answer in bringing an innovation from the idea stage to commercialization.

- First, is it technically feasible? That is, does it work and can it be built?
- Second, is it marketable? That is, is there enough demand to make it profitable to produce the product?
- Third, can the financing package be arranged?
- And finally, is the resource pool of workers adequate? Is there skilled, effective management as well as trained, skilled labor?

To accomplish job development, we are actively producing ideas for new products or processes. How do you come up with a better washer, a new type of insulation, or a new type of lighting? Everything you see, everything you wear, at one time was an idea. We have an explosion of technological knowledge in this country, even more so after the recent successful flight of the space shuttle Columbia. We are working with the National Aeronautics and Space Administration and the National Space Foundation to develop new technological ideas that will then produce jobs.

By linking our Industrial Innovation Center in Durant, Oklahoma, with the Oklahoma State Department of Vocational-Technical Education, we hope to be able to answer the four questions an entrepreneur opening a new business needs to answer. This will allow us to give birth to new, high-technology, small businesses in economically depressed areas. The Industrial Innovation Center will act as a “brain trust,” or “think tank,” to search out innovative technologies—working with inventors, the general public and federal laboratories.

Each year the federal government spends about \$30 billion on research and development. The R&D projects contain a wealth of innovative technology that is seldom utilized. We plan on tapping that technology and putting it to work. Currently, the Industrial Innovation Center is developing over 130 new products from this technology.

Earlier, I mentioned the national vocational-technical entrepreneurship demonstration project being put together by the Oklahoma State Department of Vocational-Technical Education. The project will establish entrepreneurship classes at Kiamichi Area Vocational-Technical schools in Atoka, McAlester, and Hugo, Oklahoma. In conjunction with the curriculum development, we are also constructing general purpose buildings we call "industrial incubators" at each of these three schools.

Just like the vocational agriculture student, each entrepreneurship student will be given a project to develop a new industry from innovative technology. The schools will be linked via computer terminals with the Industrial Innovation Center. The students will use these computer terminals to locate innovative technology and answer those four questions on technical and marketing feasibility, financing, and personnel. The student then draws up an overall business plan for the creation and operation of a company to produce a new product or process based on the innovative technology.

The industrial incubators will be used to start up new businesses managed by the vocational-technical students. These new companies will include the students' projects, as well as other "vendor" companies that will produce parts or subassemblies on contract from major business. The incubators will ensure that these new small businesses have adequate management, sufficient cash flow, adequate inventory, and skilled labor. When these new companies develop to the point of self-sufficiency, they will be "spun-off" from the incubators and located in small towns with chronic unemployment.

It was not easy to build vocational-technical schools in my area, because we had to change the state guidelines. Rural depressed areas in my district did not meet the 15,000 population standard or the \$44 million tax base required to build a vocational-technical school. However, we were successful in obtaining the vocational-technical schools and are now building industrial incubators next to them.

In conclusion, our challenge is to build a future for our children and grandchildren in rural America. When I was growing up, my momma would often say to me, "Son, go get an education and then go get a job." She never said, "Come home to a job," because there were no jobs in southeastern Oklahoma. That is why most of the counties in my congressional district have lost over 50 percent of their population since 1930. There has been a tremendous out-migration, because after the young people completed their education, there were no jobs for them back home. They had to go to the cities to find a job to match their skill and education level.

That is why my challenge to you today is to become the entrepreneurs of entrepreneurship; to develop systems of entrepreneurial training, which in turn will develop tomorrow's entrepreneurs, who will become the leaders not only in agriculture, but of society as a whole.

QUESTIONS AND ANSWERS

Wesley W. Watkins

QUESTION: Where does the funding of entrepreneurial education programs lie within the context of cuts in the federal budget?

President Reagan does not think that the government should be involved in funding for these kinds of programs. Most of the industrial innovation and technological development activities are being cut out of the budget. The House budget committee is restoring vocational education money in its legislation, and we are trying to restore some industrial innovation funding. I mentioned the Fortune 500 companies because most of them have R&D divisions that only synchronize on a particular problem that deals with their own line of production, not in numerous other areas. We are fortunate to have secured support from the National Aeronautics and Space Administration, the National Science Foundation, and the U.S. Department of Commerce for our Industrial Innovation Center. From Oklahoma companies such as Rockwell, which developed products for the space shuttle, we are developing "spin-off" products. These are spin-offs to smaller industries that are working in certain areas. These small industry owners, farmers, and skilled workers who are trying to make something work find there is a better way, and therefore spawn innovations. It is not the corporate people, or the R&D divisions of Fortune 500 companies, or the people at Massachusetts Institute of Technology who create the innovations we need to create jobs and enhance economic development. It is the people, many of whom you deal with daily, who come up with a new idea for a new process or product. This adds to the productivity of this country. These small businesses do not have R&D divisions. I would like to restructure some of the research and development money in this country to go to industrial innovation centers and to vocational-technical schools. If we can build a record of achievement in these institutions, I think we can get R&D money. I hope that through this national demonstration program we can help set that record of achievement. This may provide the breakthrough on which we can capitalize.

QUESTION: Would you describe the "industrial incubators," explain what relationship they have with the vocational schools, and tell us how they will be operated?

We are setting up industrial incubators next to the vocational-technical schools. The Industrial Innovation Center will provide innovative products for vocational students interested in starting their own business. These products will be produced initially in the incubators with vo-tech students assisting in management and production. For each new business, we will monitor and supervise their operation and provide the necessary nurturing to get each one started. When production becomes economically viable, we will spin-off the product as a new small business. The vocational-technical people are building a profile data bank of potential management people who were originally from the district. When these former residents want to come back, we plan to call them and offer the opportunity to produce a product in their area of expertise.

I am meeting this week with some oil company people to try to put some risk capital and venture capital together for these new corporations we are starting. I had to go to the White House to get the funding for the Industrial Innovation Center. If I can gain the aid of the private sector, we can revitalize and change the face of little towns in rural, depressed areas.

QUESTION: Would you describe your national demonstration program and its relationship with vocational programs? Also, how does the Industrial Innovation Center work with the vocational students?

The national demonstration program operates in vocational-technical schools. By the way, many high school students come to me with ideas. As a result, we are going to institute a new product fair similar to a high school science fair. We are going to use young people's ideas for new products and processes, and let that be a motivator to implement new technologies, as the FFA project was to me.

We will have computer terminals at the schools. Each of the 2,700 students (adults as well as secondary students), will be introduced to the entrepreneurship program. They will decide whether to establish their own business or industry. Then, if students show a tremendous interest, or already have an idea, they will work with the Industrial Innovation Center to decide if the product can be produced and marketed.

It is amazing. For example, one young fellow who is a student at the McAlester vocational-technical branch of the multi-county vocational-technical school plays the drums. He went through this process and said, "I have always wanted to build this little product, this little attachment for a drum set. Then I could produce some different sounds." That young fellow had the idea. He is planning to start developing that new product and to sell it to every band and every jazz group in the country. Another example of a student's initiative that resulted in something better involves a sheep blocking stand. A blocking stand is used to hold a sheep to groom it for competition. It weighs two hundred pounds and is hard to carry. The Industrial Innovation Center helped to find a light-weight plastic to build a sheep blocking stand that can be lifted with one hand.

The students can test their ideas using a large data base. For any particular product, we have access to NASA data and National Science Foundation data. We also have many other types of information that can be applied to the product. The Industrial Innovation Center will analyze the data to see if it is going to be a good product or process. If the answer is yes, then a marketing analysis is done. If the analysis comes out affirmative, then we begin looking for investors. After that we will move to an incubator, build a prototype of the product, and begin production.

QUESTION: What can research and development in vocational education do to further this national demonstration project of Oklahoma's?

Research and development can help us develop the entrepreneurs of entrepreneurship. Also, we will need to know how our program works. If we can make it work in an economically depressed rural area, it may work in the other settings in the country. It could be used as a model for other programs and tested in other settings.

QUESTION: How will you keep the national demonstration program funded if federal funds are cut back?

That is why I am meeting with the oil companies next week. One oil company wrote to me and said, "We want you to approve the Reagan program in its entirety." I wrote back a letter pointing out all the things that we are doing in technology and innovation. I then said that "the private sector should share the cost. I will come by to see if you will help provide about \$100,000 to make up the deficit." I want to see if they are willing to do it. I have not seen evidence of that kind of social conscience yet when it comes down to helping a depressed rural area. I hope and pray that they will.

Let me mention some of the things that our sponsored industries, developed in the incubators, will do. We will receive royalties from products developed in the Industrial Innovation Center. So in about five years we will have enough royalties coming in to be solvent. We have lost many potential jobs that we need badly because we do not have an industrial base in the area with the expertise to produce items for larger companies. That is why I developed the incubator concept to go along with the vocational-technical school. Now we are not waiting for calls from industry; we are creating industry. I am going to three industries that want to do contract work in our area. I am going to three private foundations to get \$100,000 to help in this effort. I want to build a future for the 94 percent of our loved ones who want to come back home but cannot.

Our country wrote the Marshall Plan, at the end of World War II, to build back the economic base in Europe, and twenty years later (with the riots in the major cities), we wrote a massive Urban Renewal Program to rebuild the inner cities of this country. But our country has never seen fit to write a program to rebuild rural America. The largest movement of people in the history of our country came out of rural areas. They migrated into the major cities of this country seeking jobs. I think it was a tragic, sad experience for this country. These people are locked in a concrete jungle. I am ready for private industry. I welcome it. I want it there. I will do everything I can to get private industry funding. But, until that time comes, I will continue to try to obtain federal dollars.

QUESTION: Your congressional district is primarily agricultural. How is this national demonstration project helping in agriculture and agribusiness?

Next week we are announcing a grant that will provide vertical integration and a value-added concept for the cattle industry. We will develop leather goods manufacturing for my area of the state. We grow mainly cattle and peanuts. The cattle industry is strong, but the people are not making much of a living from it. However, they at least have self-esteem.

What are we going to do? Think about the number of imports into this country—oil being number one, automobiles being number two, and the shoes that many of us have on being number three. There is a large movement of leather hides, the raw products, to other countries where they are made into shoes for sale in the United States. We have a huge cow/calf operation throughout southeastern Oklahoma and into east Texas. We raise calves to about 500 pounds and then send them to feed lots in Nebraska and other states. Now we are going to use some new technology, set up cooperatives, and vertically integrate the local cattle industry from the cow/calf operation to the feedlot, to the processing plant, and to the tannery. Finally, we will manufacture our own leather goods.

QUESTION: If you are able to make this national demonstration project work, what would be the greatest achievement of the program?

I think the greatest thing that one can do is let people become human beings again. I think many of our people in the concrete jungle of the inner city become numbers; they lose their identity. They lose the feeling for who they are and what they stand for. In most rural communities, everyone knows you. You have an indirect kind of peer pressure because everyone knows you. You do not want to steal watermelons too often because you do not want to get a bad reputation. You are proud, and the community is proud of you when you win a blue ribbon in FFA, or in the 4-H Club.

In the summer of 1977, I went to New York. About three weeks later I was sitting in my home in Ada, Oklahoma, when on the television flashed the bulletin about the blackout in New York.

All the lights went out. What happened? There was murder, looting, armed robbery, and muggings. That would not happen in my district, because if there were a similar emergency someone would try to help. People would assist one another. I think we can rebuild the relationship with one another that we had, a deep concern, a deep caring, and a love for one another. I think that would be one of the greatest things we could do for this country. I am saying that there is another answer. Help us rebuild rural America, and give us the assistance to do it.

QUESTION: What will happen to the federal programs that affect rural America?

Without question, rural America is probably taking the greatest cut of any group in the country. Why? If you use the population figure of small cities and communities with 50,000 people and below (that is what the federal government defines as rural), you have nearly one-third of the people in this country. Only 7 percent of the education funds for the handicapped are in rural America. Only 17 percent of the community development block grant money is spread in rural America. Only 25 percent of Urban Development Action Grant money is set aside for rural America. Of the technology development program funding, none was used in rural America. Is this fairness and equity? We did get one project funded through NASA. We described it in the enabling legislation as an economically depressed rural area or we would not have received even a part of the funding. Environmental Protection Agency money is being cut out for water and waste projects in our part of the country. The remaining EPA money can only be used in the Standard Metropolitan Statistical Area around urban areas. None of it can be used in rural America. The water and sewer funding from the Farmers Home Administration is being cut by over 50 percent. Over 38 percent of rural housing funding will be cut, yet over 50 percent of the rural counties in the United States do not have a savings and loan association. I do not have an investment banker in my entire twenty-five counties. There is only one little branch of an insured mortgage company. You have to have insured mortgage companies in an area to get Housing and Urban Development federal housing funded. When a little is cut from the entire federal budget, all of it is cut for programs in rural America. The entire business and industrial loan program will be cut out of the Farmers Home Administration. Farm operating funds are being cut back by 50 percent. I do not know how farm people are going to be able to continue. I estimate that we had more bankruptcies in 1981 than during the Great Depression, or in the history of our country as a whole. Many of these were in rural America.

QUESTION: Can you give us an idea of where the plan and original funding for this national demonstration project began?

When the voters were good enough in 1978 not to give me an opponent on either side of the aisle, neither Republican nor Democratic, I delivered a message to a federal agency. I told the story about my district, and what I wanted to do. I went by myself, because I wanted them to know it was not a political situation. It took over a year to finally get a decision made. We received about \$100,000 in seed money for our project. Now, we have seven agencies involved, including NASA, the National Science Foundation, the United States Department of Labor, the Environmental Protection Agency, the Oklahoma State Department of Vocational-Technical Education, the county government, and local people. The executive director of the Industrial Innovation Center has been working for a little over one year. We spent that time trying to get work space. The deputy director has been working with us for a little less than a year and our marketing manager for about six months. We already have one product prototype being developed and built. We have four or five that are ready for production as soon as we get the incubators operating. Within five months, we will have the first new product in the incubator. We currently have one in a separate, small industry. In about four to six months, we will be spinning the first product out of the incubator. We are trying to get some private capital to help us with

operating funds. We have to get the private sector involved as quickly as possible. With these data we can change industries' attitude about helping us.

QUESTION: How long will it be before this project becomes self-sufficient?

This program is expected to take five years to become self-sufficient. I would like to make a concluding statement: I have the salt of the earth, the greatest people to represent, in my district. A question I ask myself, and I hope it is a question you ask yourself from time to time as you go about your job, is: "Why are you sitting where you are?" Why am I in politics? I got into politics to try to build a better way of life for an economically depressed, rural area of the state. Oklahoma is blessed with an energy industry that makes Oklahoma City the most fully employed city in the United States. We are unique in that the second most fully employed city in the United States is Tulsa. But less than 100 miles away in my district, we have some of the most chronic unemployment and the worst underemployment of any area in the United States. I knew that through a political career, I could try to improve that area of the state of Oklahoma.

I hope, as you try to analyze your job as vocational educators, that you do so with an enthusiasm, a faith, and a determination to do something for people, the less fortunate people in the country. A gentleman had to leave my little community when I was a youngster. Mr. Hamilton came to the farm where I grew up. He had some mattresses, furniture, and the chicken coop wired to his pickup truck. He got out of his pickup truck, took the chicken coop down, and gave it to me. Mr. Hamilton got back in the pickup truck with his kids and his wife. I said, "Mr. Hamilton, where are you going?" And he said, "I'm going to California." I said, "Mr. Hamilton, don't you like Bennington?" I looked up in the eyes of this man, whom I admired so much, and tears were coming from his eyes. I remember what he said to me that day many years ago. He said, "Wesley, Bennington is a wonderful place to live, but a hell of a place to make a living." My dream, my desire, my hope, and my prayer is to see that people like Mr. Hamilton come back to the area and say to me, "Wes, because of something you tried to do as a congressman, the southeastern part of Oklahoma is not only a great place to live, but an even greater place to make a living." That is the trust I have in vocational education.

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