

SWISS VOCATIONAL EDUCATION: FACTS, FIGURES, AND PROSPECTS
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>> LEWIS: Welcome.

Thank you for coming to the second in our series of professional development seminars being sponsored by the National Center for Career and Technical Education Dissemination Center at Ohio State University. This is the second in the series of these seminars which we will be offering at approximately one-month intervals throughout the year. Our speaker today is Dr. Kurt Haefeli from the Swiss Pedagogical Institute for Vocational Education.

Dr. Haefeli is the head of their section for research and development. We are happy to welcome him to Ohio State and to the National Dissemination Center and to welcome him back to Ohio because in 1970 he spent a year in Dayton as an exchange student.

He graduated from Wayne High School in Dayton and, I'm sorry to say, went on to the University of Michigan for his baccalaureate degree. But we welcome him to Ohio State anyway, and we look forward to his address.

Dr. Haefeli -- his position with the Swiss Pedagogical Institute involves research on vocational education, and it has -- and he has been studying topics such as school-to-work transition, connections between education and the workplace, gender differences in vocational education and careers, and comparative vocational education. His topic today is going to be the Swiss system of vocational education.

Please join me in welcoming Dr. Haefeli to Ohio State.

(Applause)

>> HAEFELI: Well, thank you for this introduction.

I'm very glad to be back in Ohio, as he said.

My topic is, as he said, vocational education in Switzerland.

I want to show you my first slide.

There.

This is not me -- could be me.

I want to show you in this hot weather some nice things that you can do in Switzerland, of course, but that's -- so much for the advertising for the tourism, but it gives you, also, an overview of what I am going to talk to you about.

I want to give you first some general information on Switzerland so you know on what the context -- what the context is.

Then I'm going to give a brief introduction into the Swiss educational system.

And then I will concentrate, and that's the main part, on the vocational education system.

And I'll conclude with some prospects, some points of discussion.

Let me come to the first point, general information.

Two factors have made their mark on vocational education in Switzerland, diversity and pragmatism.

Both contribute to the quality of our vocational education.
There, two cultures that are Germanic and Latin influence meet.
There is a need for impartial openness to varying solutions.
The development of the modern economy likewise leads little room for inflexible schemata.
Rather, it requires solutions that are focused to the region and to technology.
One of the central issues has become a reexamination of the legal foundation.
In Switzerland, we are in the process of taking the changing educational needs and profiles of activity into consideration of defining guidelines for new types of programs.
In particular, the traditional separation into commercial/industrial and social and health care programs should be done away with.
The guiding principle will continue to be providing flexible opportunities for training that are based on the strength of the various models in use, rather than establishing requirements that are meant to be as uniform as possible.
In order to understand how the Swiss educational system works, some of the geographic, political, economic, and cultural characteristics of the country need to be explained.
Switzerland is -- the map of Switzerland is divided geographically into three regions, which you know, of course, the Alps.
That's about two-thirds of the whole country.
Then you have what we call the central section, this part here, where most people are living.
You have cities like Geneva, Lausanne, Bern, Solothurn, a small city where I come from, Zurich, Lucerne, and you also have the Italian-speaking part with Lugano and Locarno.
And the third part is what we call the Jura, Jura, this part here, which is mainly hills.
So most people live in this part, of about 20%, 25% of the whole area, but the rest are throughout Switzerland.
Switzerland has 7 million inhabitants, not very many.
20% are foreigners, mostly from Italy, ex-Yugoslavia, and Spain.
It has one of the highest -- Switzerland has one of the highest foreign populations in Europe.
Politically, the country is divided into 26 cantons, each of which has a large degree of political autonomy, especially in terms of how its educational system is organized.
64% of the population speaks Swiss-German, so this is a map of the languages.
This is more -- the reddish part, that's the Swiss-German part.
Then about 20% speak French, this part here.
Over here would be France.
Up here, Germany.
Over there, Austria.
And here, Italy, and this is about 8% of the population who speak

Italian.

And then the violet, the purple, that's Romansh; a very small minority speak this language.

And then we have several percent of people who have other languages that's their native language.

Let me come to the economy.

Similar to other highly developed industrial nations, Switzerland -- Switzerland's earning and production structure is dominated by the service sector.

You see the development over the last 25 years.

The service sector has largely grown, industry has gone down, and agriculture is not very important anymore.

Small businesses play a major role in the economy.

We have only 176 businesses with more than 1,000 people.

The most important branches of production are machine construction and the metal industry; the manufacture of electronic, electrical, and precision mechanical devices, as well as the chemical and pharmaceutical industries.

Not only commerce and transport are of major significance for the service sector; health care services for enterprises and restaurant and hotel trades also play a major role.

On the next slide you see the changes in the last 15 years in selected branches.

You see on the left hand the ones that have grown, education, research, administration -- that's where we are in.

That's good.

And you see the ones who have diminished, especially machine and the metal industry, those were the ones who are traditionally very important in Switzerland.

So there's a shift, as in other highly developed nations, toward the service industry.

Overall, one can say, and an OACD study says that even though stagnation of the GDP is -- we've seen a lot of stagnation during the '90s, and the only low -- catch up in the last two or three years, the Swiss economy is still going very well, has a very low unemployment rate, and the -- and it is one of the richest -- one of the two or three richest countries in the world, still.

Let me come to the political system.

The Swiss Confederation, which was founded in 1291 -- we just celebrated the 709th birthday on August the 1st and have been a federal state since 1848.

Some typical characteristics are federalism and communal autonomy. The cantons, or you would say the states, existed before the federal government did.

In 1848, the cantons created the Swiss Confederation and assigned areas of responsibility to it that exceeded the capacities of the individual cantons.

Until today, public education has remained under cantonal authority.

The second characteristic, the exceptionally broad range of civil rights.

Swiss citizens not only elect representatives to the national and cantonal parliaments, the cantonal governments, and the most important communal authorities, they can also vote several times a year on various issues, also educational matters.

The government at all levels -- this is the third characteristic -- is an expression of political consensus.

For example, the administration at the national level is composed of representatives of the four largest political parties.

So it's not this kind of majority system that you have or Germany has. Each party provides the seven members of the executive federal council, and together they have three-fourths of the seats in the Swiss federal parliament.

Let me come to the second point, the survey of the Swiss educational system.

In accordance with Switzerland's federalistic principles, all those powers that the constitution does not expressly designate to the federal government fall under the jurisdiction of the cantons.

The national government may only take action in those areas stipulated by the federal constitution.

As a result, the Swiss federal constitution does not provide any legal framework for a uniform regimentation of the educational system.

The cantons have the main jurisdiction over schools.

The federal government so far only regulates vocational education in industry, commerce, trade, agriculture, and home economics, but in the future, also in health care and social work.

Why this is so, I will explain in a minute.

In the next slide you see the structure of the educational system.

The following types of schools can be found in Switzerland.

You start with kindergarten, as you do, at age 4 or 5.

And then we have compulsory public education, usually starting at the age when the child turns 7, and this lasts nine years.

And what is important, an important difference, is that at the lower secondary level, there is a tracking.

You usually have three tracks after 6th grade.

So there is a big decision when the child is 12 or 13 years old, according to cognitive ability.

And then the second important point comes after 9th grade.

When the child is -- or the adolescent is 15, 16 years old, he or she has to decide what they want to do.

Either they go, if they have the ability, to what we call the gymnasium, or the schools which prepare for university entrance, which comes later on, or the majority would go into an apprenticeship and then also attend vocational schools.

There are also other types of schools, teacher training, institutes, or what we call the diploma schools, which are full-time schools preparing for professions like in the health sector.

And if you cannot decide or if you don't find what you want, there are preprofessional programs or intermediate programs, such as introductory courses, integration courses, career orientation courses, or just attending a 10th year of school.

It's especially important for young people from foreign countries who, for example, don't master the language.

And vocational training, usually in the form of an apprenticeship in an enterprise, lasts three to four years, sometimes with an attendance at an advanced vocational school.

After the upper secondary level, which means after 13th grade, usually by the age of 19 or 20, you can go on to the university, maybe you would call them research universities, or federal institutes of technology, or if you have an advanced degree here, you can go on to the universities of applied sciences.

Or there are other possibilities preparing for vocational or higher vocational certificates.

There's also the term, "associate's degrees," which is not exactly the same as you use here.

So there are a number of possibilities after -- after upper secondary school.

But in general one can say, in comparison to the United States, that up until this level of the secondary school, a lot of young people are in school -- I will give you the numbers later -- so that the postsecondary level, we have less young people in education than you have.

For example, we have 10% -- around 10% in universities at this time, and you have about 25%.

And, of course, to finish up here, you have further and continuing education, which becomes more and more important.

I think something, too, this transition here, at the end of -- or toward the end of their compulsory schooling, young people in Switzerland, as I say, have to decide what they want to do.

They get career counseling, which is usually part of the curriculum at the lower secondary level, and they also get individual career counseling.

Most everybody wants to, wants to have it, but 67% receive individual career counseling, which is noncompulsory, free, and provided by an independent public institution.

And there are also career choice programs during the intermediate year.

Maybe I should add, as to the postsecondary level, that the universities, the research universities or universities of applied science are basically free or very low tuition.

They are run by the states, or by the cantons.

And I think this is a very important part of the Swiss educational system.

There is hardly no private university or university of applied science in Switzerland.

Let me now take a closer look at upper secondary schools. A great majority of young people voluntarily attend some form of further education after finishing public schools. You see here that close to 100%, more precisely, about 90% of all young people finish school at the upper secondary level. Most of the young people then join the workforce, usually at the age of 19 to 21 years. Others continue their education at the postsecondary level. You see how this is divided up now by relative numbers. Blue line shows the 16-year-old age group, and you see that most young people go into vocational education, which is the red line; and university preparation, this is 15% to 20%. Up close to 20% of an age group go into the university preparation. But one has to say that there are much differences between young Swiss males and females and foreigners. You see, especially female foreigners, one-fourth of them -- close to one-fourth leave school at the compulsory level and do not get any further education. And, also, close to 20% -- every fifth young male foreigner is not in school anymore after 16 years of age. So that's a big problem. I'll come to that back later. And I think this especially has grown in the last few years since we have had a lot of immigration from ex-Yugoslavia, and these young people came at an age of maybe 12, 13, where they had already acquired some of the educational background in a very different culture and a very different language, of course. Let me come to the vocational education system. In this section I'll give you a more detailed description of both parts of the educational system that concentrates on training to prepare for working life, training by working, and further professional training. As a result of historical developments and until recently the lack of a common foundation in the constitution, several quite different systems of vocational education have evolved. The predominant form of the vocational education is the apprenticeship. You'll see more like the same graph that's now concentrated on vocational education, so we have the apprenticeship here, On-the-job training in the firm, which is accompanied by attendance in a vocational school, the dual system or by attending a vocational school and an introductory course, which we call the triad system. Some occupations can be learned easily through an apprenticeship or by obtaining a specialized trade school or a training workshop program. Full-time vocational schools are more common in the western part of Switzerland and in the Italian part than in the German-speaking part. This is the reflection of different positions. Although the Swiss vocational educational system is based on a dual

system similar to Germany and Austria, the French-speaking and Italian-speaking parts of the country are influenced by their neighbors France and Italy, where vocational education is oriented more toward attending school.

In terms of quantity, the most important sectors for vocational training are industry, the crafts trade, banking, insurance, transport, restaurant and hotels, other service sectors, and home economics.

Vocational training in these sectors is regulated by the Federal Vocation Education Act.

The health sector, nursing, midwife, medical therapy, and medical technology is another important part, especially for young women. The cantonal public health authorities have delegated the job of regulating, supporting, and controlling the training in most of these professions through the Swiss Red Cross.

The training institutions, for example, health care schools, are responsible for training.

They work together closely with institutions where internships take place, mostly hospitals.

So let me go back here to the 10 most important apprenticeships for women.

Maybe some of the trends are a little bit strange for you, but you can get the feeling of what fields young women go into.

In office work, this would be a business school, commercial graduates, more the school -- school-type preparation for an office.

This is also in the office, at the lower level.

And then you see a number of health professions.

And this is very concentrated.

62% of all females are in 10 professions.

So even though we have more than 200 different professions or occupations, young people are very much concentrated.

On the next one you see the men, apprenticeship, contract.

You see again on the first place, office, office for men.

But I think there's a difference here because in Switzerland, at least, this is a very broad occupation which gives you a lot of possibilities to go into managerial positions, for example.

And then you have -- maybe you would call it construction, electrician.

This, I learned you would probably call cabinet builder.

And here you have a related one, timbering, carpenter, or somebody who is working in making the roof or the stairs.

And you see the other professions.

This is less concentrated among males.

You see here 10 professions give you 43%.

So there are a larger array of -- of apprenticeships for males.

Let me come to -- a little bit to the history of vocational education. Vocational education as it is known today was created at the end of the 19th century.

We have some very important leaders like Russo or Pestalozzi, which are Swiss, and they have a lot of influence into how the Swiss educational system was -- and the philosophy was created. 100 years before, the French Revolution at the end of the 18th century destroyed the traditional form of training that went back to the Middle Ages and was regulated by the guilds. Let me show you here the apprenticeship certificate. The one on the top is from 1764, and it's handed out by the guilds. And you can see, it's very nicely done, and not too many young people got it, and especially not very many females. In the middle of the 19th century, Swiss enterprises were constructed with international competition for the first time because of the free trade agreements, liberalism, and improved transportation, railways. I think there are a lot of parallels to the situation we have now. For the emerging machine factories, banks, and commercial enterprises, these new conditions were a challenge that they met successfully. And I must say in contrast to the United States, machine factories and large enterprises thought that apprenticeships in the -- developing in maybe a different way, that apprenticeship would be a very good form of training young people, and not just training them on the job later on. So they come from the apprenticeship system. Trades, however, were hurt by international competition because their structures were outmoded and the employees insufficiently trained. For this reason, in 1884 the federal parliament decided to support and consequently offered to regulate to a certain degree the craft and trade schools as a measure to promote the economy, thus making the trades more competitive again. The schools were set up in much the same way as today, with two groups of subjects, occupation-related subjects and general subjects. The federal government received further powers, such as establishing training regulations through an amendment to the federal constitution in 1908, which permitted it to set up uniform regulations for the trades. However, at first, the promotion of practical training remained in the hands of trade associations. So you see the second diploma here is handed out in 1923 by a trade association. It's not a public authority because the first federal law in vocational education was only passed in 1930. This law charged the Swiss federal government with the regulation of practical and theoretical education. Final examination for apprenticeship certificates and attendance at vocational schools were declared obligatory for apprentices. And so you see the third diploma, which still looks the same today. This is handed out to all the young people who finish an apprenticeship, and it has the Swiss flag on it. Vocational education did not really get a boost until after World War

II.

You can see this here.

At this time more and more of the population began to consider it normal for boys and girls leaving the compulsory schools to continue their education in an upper secondary level, either apprenticeship at a trade school or at a school preparing for the university entrance certificate.

The Vocational Education Act was revised in 1963 and '78.

And, as I said, a further revision is underway right now.

Let me come to legislation and implementation.

As legislation of vocational education is based on an article in the federal constitution concerned with the national economy, the federal government powers are -- or were until recently limited to education and further professional development for occupations belonging to industry, the crafts, the trades, agriculture, and domestic services. Consequently, vocational education falls under the jurisdiction of the Federal Department of Economic Affairs.

So we don't have an educational department.

In 1999, the federal constitution was revised and some basis for extending federal competence for regulating and supporting vocational education in all areas of professional life was created, including social and statistics fields and the health care profession.

So this is very important in terms of equality among gender because, as I said, health care was so far regulated by the Red Cross and also differently financed.

Apart from the Vocational Education Act, sections of the Swiss law of obligations are of major importance for vocational education.

According to Swiss law, the contract of apprenticeship is a special form of employment contract, thus falling under the jurisdiction of civil law.

The federal law supports professional education and technology here, which is under the Federal Department of Economic Affairs, works together with industrial organizations to establish the training and examination regulations for individual occupations and to create the syllabi for the vocational schools.

And the institute I'm working is also part of the federal office, where we mainly train teachers for vocational schools.

The cantons have -- set up their own offices of vocational education, here -- this is at the state level -- to implement the Vocational Education Act.

These offices are especially concerned with the vocational schools, supervising the apprenticeship and organizing and carrying out the final examinations for the apprenticeship certificates.

The authority's most important partners are employers' associations and labor organizations, organizations which include, on the one hand, health organizations and, on the other hand, professional associations.

The professional associations, usually those of the employer to meet

proposals for new or revised training regulations, usually also formulate the examinations -- examination questions on behalf of the authorities.

Of course, the trade associations are, if you want to, a follow-up of the guild, in a different form, of course.

According to law, the trade or the professional associations are also charged with working out the so-called training programs to promote the systematic training of apprentices.

In addition, representatives of the associations belong to all of the pertinent board -- supervisory boards, examining boards, working groups, etc., whereby parity between labor representatives and employer representatives is taken into consideration.

Some of the organizations also create teaching materials, and the responsible authorities can also entrust them with the realization of the final examinations for the apprenticeship certificates.

And so these associations are very important for -- for the functioning of the vocational system.

Let me now come to the dual and triad systems, and let me point out some of the specifications.

The original form of training in an apprenticeship consists of two learning venues, dual systems, the firm where the apprentices were trained and the vocational school.

During the first half of the century -- or last century, the amount of time spent at a vocational school increased from half a day to one or two days a week.

The Vocational Education Act designates the maximum of two days of school.

Included in this attendance is selecting electives and remedial courses.

And you can see this, the upper part, which is the example of a small firm.

You see on-the-job training, the red one, is the most important part of this.

And the red line is the vocational school and, as I said, one to two school days per week.

And then you have additional courses you can take.

And depending if you are in an advanced vocational school, you have two days of school.

The picture is a little bit different for large enterprises.

School is usually -- takes more time because these are different occupations, and training in the enterprise is small, productive work is a smaller proportion, and you have more training workshops or internal schools.

So what makes the apprenticeships special in educational terms are its twofold objectives, to provide both training and knowledge, qualifications, and personal development.

According to Article 6 of the Vocational Education Act, basic training provides, quote, the skills and knowledge necessary to perform an

occupation, it broadens general knowledge and promotes personal development and a sense of responsibility.
Furthermore, it provides the foundation for continuing education, both professional and general, end of quote.
I think this is very important, but it's not just a vocational goal, but also personal development, which is important.
On-the-job training.
Practical training takes place in the firms.
Many firms share these job-in-training alliances.
Large firms move many of the training tasks to their training workshops, training laboratories, practice offices, or internal schools.
This is not only common for industries, but also for stores, large banks, insurance companies or restaurant chains, for example.
However, real tasks are always used to deepen in practice what has been learned.
Also, the proportion of training time spent on things may vary greatly.
But in small firms, this is the most important part.
The contract of apprenticeship is a special kind of private law employment contract.
It is only valid once, it has been approved by a cantonal office of vocational education, and it has to be signed by the young person or his or her parents and the firm.
However, regulation and supervision are limited to aspects for the cantonal office that are relevant to the training program.
For example, how much the apprenticeship -- the apprentice earns, his wage, is not regulated.
The apprentice must negotiate this with the firm where he or she plans to train.
Also, many professional associations do provide guidelines.
They usually earn about one-fourth of the salary they earn afterwards, but, of course, less in the first year, and then they earn more in the last years.
On-the-job trainers are either the owners of the firms themselves or more commonly other professionals with job experience, or journey person.
Each trainer has to attend a training course of at least 40 hours that has a curriculum that complies with what the federal government has determined to be necessary.

The courses are usually offered by the cantons and professional associations.
They may also be integrated in a program to become a master.
There is no final examination for this.
For the introductory courses in the training centers that run introductory courses, the courses are taught in blocks of three or four days a week.
Depending on the profession, they last 2 to 20 weeks, distributed all

over -- over all of the years of the apprenticeship.

In the training centers where they are held, the teachers are either full-time trainers or professionals who have been hired part-time by the institutions, especially for those occupations where there are only a few apprentices.

And the third part are the courses at vocational schools.

Every apprentice must attend a vocational school, which is free of tuition.

Courses at vocational schools are held in classes of 10 to 24 students.

The goal is to have classes of apprentices in the same occupation and at the same level.

However, because there are more than 200 possible occupations, it is not easy to achieve this goal.

As a result, for some occupations the students attend so-called intercantonal trade courses or specialized courses that are held in blocks.

Usually classes are held on one to two school days a week with nine or eight lessons per day.

For many years there has been some experimentation in block courses that this type of course organization has not become established yet.

In some occupations, however, attendance at a vocational school is intensified in the first year and gradually reduced toward the end of the apprenticeship.

In most cases, vocational schools are financed by the cantons or the communities.

Trade associations often run their own schools, as well.

Most of the commercial business schools are run by local business associations.

Some of the trade associations also train the next generation themselves, for example, for occupations like plasterers or roofers. Similar to the training place -- the training that takes place in the firm and in the introductory courses, the courses at vocational schools are oriented to the occupation to be learned.

The so-called specialized courses, 5 to 14 lessons per week, depending on the occupation, are supplemented by classes in general knowledge, which are independent of the occupation being learned.

They are held for three lessons each week and serve as an orientation held for young adults in their current situations as apprentices.

The development of language skills and a certain foundation of general knowledge, for example legal rights in work, family environment, form the basic curriculum.

The teacher tries to achieve independent, self-responsible, and self-determined learning.

In order to realize this, the teachers are given a great degree of freedom.

Lessons in physical education supplement every day at school.

Engineers and masters with supplementary training at the Swiss

Pedagogical Institute for Vocational Education, where I'm coming from, teach specialized classes.

Academics and teachers from the primary and secondary levels are trained at our institute or at the university to teach the classes in general knowledge.

At business schools, most of the teaching is generally done by teachers who get their training at the university.

Maybe you're worried about final examinations, basic training and the final examination for the apprenticeship certificate, consisting of a test on workmanship quality, practical work, which is held at the apprentice's firm, or in special localities, an examination in theory related to the occupation, and an examination in general knowledge. Depending on the occupation and the subject, the grades the apprentice has achieved at the course in the vocational schools are also taken into consideration.

The examination is under the jurisdiction of the cantons, and it's run by groups of experts.

Each year approximately 20,000 experts from trade and industry participate in the examinations.

In some regions and for some occupations, the professional association organizes the examination and the commission of the canton or the federal government.

Whenever possible, the examination questions are formulated uniformly for a whole language region.

After passing the examinations, the apprentices are awarded the federal certificates of competence, which you have seen, with a supplementary page listing their grades.

In addition, the firm where the apprentices were trained gives them a certificate of employment for the period of their apprenticeship.

Now, we have also training for special groups -- let me go back here -- for example, for the ones who are -- they're calling it disability -- is a little bit weakened here, the elementary training. This scheme was created in the '80s for young people who primarily have more practical abilities.

Similar to regular apprentices, the apprentices doing elementary training work in a firm and attend special classes at vocational school one day a week.

However, only a few percent of all apprentices are enrolled in an elementary training program.

Nonetheless, it has become established as an important opportunity for those young people who are scholastically weak to get some professional training.

And on the other side of the spectrum, you have the gifted students, who can attend advanced vocational school.

This is over here.

Advanced vocational schools are for talented and motivated apprentices, a broader general education in addition to the compulsory subjects for professional and personal development, also giving them

the skills to enter -- they need to enter a more demanding program later.

In order to prepare for an advanced level of vocation diploma, the students do an apprenticeship in a firm or a training center and attend a vocational school.

However, they go to school half a day or one whole day longer than the other apprentices.

During this extra time at school, they attend courses in general subjects, according to a special curriculum.

In addition to the final examination for the apprenticeship certificate, the students also have to pass a further final examination, the successful completion which is prerequisite for receiving the advanced level vocational diploma, which we call *Berufsmaturitat*, which gives them the right to attend the universities of applied science, so they can advance up here.

You can do this parallel to the apprenticeship, or you can do it afterwards in one year or part-time in two years.

Let me come toward the conclusion, something about the finances, about money.

Vocational schools are funded almost exclusively by the state.

The federal government covers 10% to 30%.

The remainder is either covered solely by the canton or shared between the canton and the community.

Professional associations contribute by financing materials and courses for continuing education.

The training centers where the introductory courses are held are usually run by trade associations.

The expenses are shared by the state and the association.

In addition, the firms that send apprentices to these programs have to contribute to the funding, which can often amount to several thousand francs per apprentice over the years of their training.

At the moment, the possibility for easing the burden of the master students in the firms are being discussed with the objective of promoting greater willingness to take on apprentices.

For the time being, however, the training in the firms will continue to be completely financed by the firms themselves and the people in training.

If people make a substantial contribution to covering the cost through their work, the ratio between costs and earnings varies greatly from enterprise to enterprise and from branch to branch.

According to recent studies, the yields cover the cost for small enterprises.

In large enterprises, on the other hand, the cost exceeds the quantifiable yields by 10,000 to 20,000 francs per apprentice in the year, let's say \$6,000 to \$15,000 per apprentice in the year.

However, it has not been taken into consideration that some savings or yields are not directly reflected in these figures, for example, that the cost for hiring personnel are lower, and that when apprentices are

hired after their apprenticeship, less time is needed for training, or that the young people have a positive effect on the atmosphere in offices and workshops.

Let me show another figure here.

On top you see the public expenses, which covers about one-third of the whole expenses for -- the whole cost, divided by consideration coming from cantons and communities.

And then the other two-thirds are covered by the firms.

And this is maybe a little bit confusing.

Here's the -- covered totally is \$3.8 billion.

And if you subtract what the apprentices contribute by their work, you have net expenses of \$2.1 billion.

So most of the costs are covered by the firm.

Let me come to some conclusions.

The OACD in a recent study on -- when comparing different countries and the transition from school to work, I would say that Switzerland stands out for the success of the transition of its young people to working life.

The Swiss attach great significance to vocational education, especially in the form of the apprenticeship.

The apprenticeship is considered to be especially well suited to young people because of the combination of working at a job and attending school and the fact that learning takes place through doing real tasks.

So we think that the socialization that takes place is very important, also meeting with adults and doing tasks that have significance.

It is also -- the system is also flexible in that it allows ongoing adjustments to the changing needs of industry and society by creating new occupations, by changing the regulations.

It is reasonable in terms of cost.

An apprentice only costs the state a fraction of what a student preparing for the university does.

It is workforce oriented.

Young people having finished their vocational training can immediately begin working productively in their special fields.

Many of the young people finishing their apprenticeships are offered a job by the firm they are doing their training in.

So we have a very low unemployment rate.

And what the young people acquired are socially recognized qualifications on a national level with those certificates that they get.

And, finally, the apprenticeship is considered career oriented.

The completion of an apprenticeship offers many career possibilities, such as continuing education in specialized colleges and advanced vocational schools, vocational certificates, high vocational certificates at the universities of applied sciences.

On the other hand, a number of critical points have been raised recently.

Lower attraction.

The young people themselves or their parents are increasingly more interested in attending a school that prepares for the university entrance certificate instead of doing apprenticeship.

Social prestige may play a major role or the fact that young people wish to postpone making definite career decisions.

So the Swiss government has started a federal apprenticeship campaign, which this is Italian -- or French -- says, "My boss has also been an apprentice."

Or I can show you this, even in English.

(Laughter)

This is being distributed by the federal government.

Or you can see the next one, "I'm going to be a millionaire."

So this is how the government tries to promote the apprenticeship.

But there's another critical point, social problems.

Young people with scholastic or social deficits, especially in the cities or suburbs and with a foreign background, have increasing difficulty of finding an adequate apprenticeship.

And, finally, and maybe most important, a critical point of inflexibility.

Like many other countries, Switzerland is shifting from a manufacturing to a service and information-based economy.

These trends have important implications for vocational education.

The question remains open whether the Swiss vocational education system is flexible enough to adjust to the necessary changes.

Maybe we can discuss this issue now.

Thank you.

(Applause)

>> LEWIS: Questions?

>> Could you address some of the incentives, disincentives, that firms may have for participation in some of these programs.

>> HAEFELI: The question was about the incentives or disincentives that the firms might have for employing apprentices.

I think one of the reasons is -- that they would employ apprentices is tradition.

It's always been done this way, so we have the system with young people coming into a firm, and that's the way the labor is organized.

You have to have -- for example, if you do construction, you have to have at least two people helping each other, and so it's convenient to have a young person who you don't have to pay very much, for economic reasons, also, that you think it's important to have apprentices.

The second reason is they want to have -- they want to recruit their own people, and they want to form their own people the way they think is best.

So they form themselves, and, of course, that's the tradition of the guilds.

Why they don't take apprentices, this has been a concern in the last few years.

I think the first point is, again, tradition or no tradition. Especially in the information technology-based occupations, there is no tradition.

There are maybe multinational firms, also American firms, where you don't have these kind of systems, so there is great concern over these kinds of changes that take place.

You have academics at the top level of management, and they don't know the system.

And traditionally, in a lot of big firms, you have people who know this and have gone through this kind of system.

And then, of course, some firms and in some occupations there is growing concern of how can you provide training in the traditional kind of apprenticeship when you need so much schooling or so much formal training before?

So there is growing concern that for some occupations, you need more formal schooling or maybe one whole school year before, in an apprenticeship kind of way, but much more oriented toward basic education in a special -- in a special occupation.

Yes?

Yes?

>> (Inaudible) two weeks ago, their system where they have the four years and high school what they call technical schools (inaudible) for all the (inaudible) under your current system (inaudible) they're having that with concluding the two years of high school and what we call the (inaudible).

So their position is you put those programs (inaudible) comprehensive school.

In your system, you're doing half of public education.

Is that right?

>> HAEFELI: The question was -- the question was, repeating it, how this compares to the United -- specifically in the United Kingdom, where you have something like a comprehensive secondary system, if we have something like this too.

I would say no.

The -- one of the marks or one of the special attributes of the Swiss system is that it differentiates at a very early age.

So what we are trying to do is to make the system more flexible so you can change afterwards.

But, of course, the question remains open whether that (inaudible). And especially at the university level, for people who go into this track of the research universities and have this access to universities, they can change to the university of applied sciences, but right now not the other way around.

So we are trying to set up different but equal systems for young people, but it is a challenge, because there is so much construction in the education system going on that we're really trying to make it more flexible.

>> (Inaudible) (inaudible) development exclusively?

>> HAEFELI: The question was from the union perspective, if there is social policy and this kind of -- for young people. Switzerland is not in the European Union, which I regret. It's -- I think it's hard to say something about the common policy in the European Union.

Maybe Phillip can say more about it, but I think there is one -- one difficulty in the European Union.

You have very different systems.

You have the more school-oriented system, which most countries in the European Union follow, and then you have the minority of this apprenticeship system, which is mainly, as I said, in Germany and Austria and Denmark and so on.

But this is only a minority.

So there is a trend, I would say, toward more schooling at the secondary level and the upper secondary level.

I think this is, to be frank, though some people say apprenticeship system is losing, it's being imported into third-world countries but it's not in the western and industrialized countries.

But that's -- we'll see.

We'll see.

But maybe Phillip wants to --

>> PHILLIP: Well, actually, I think that we are actually seeing that what often we've understood that the American and European Union are totally different system, a vocational system (inaudible) in the countries, and so there is some policy of (inaudible) from the European Union that this (inaudible).

So I think it's quite an ongoing debate anymore.

>> HAEFELI: Okay.

Phillip from Germany says that there is no common social policies to be seen at the moment.

>> (Inaudible) (inaudible) are the universities (inaudible) and are vocational schools specialized from one canton to the other?

>> HAEFELI: The question is whether in Switzerland, if you want to attend university, you have to go to the one that's in your canton or not because of tuition reasons.

Or the second question is the vocational schools are specialized according to cantons.

University, you can move to wherever you want to, but your canton has to cover the cost for your university program that you're attending.

So there's a lot of interchange and economical, well, yes.

But you're free to go wherever you want to.

But, actually, a lot of -- most of the young people go to the university that's closest to where they're living, you know.

There is some specialization going on, but not very much.

And since it's cantonal authority -- not every canton has university -- they just build up whatever they think is good.

And so on the federal level, there is some debate on concentrating certain fields in this or that university, but it's very hard to, you

know, because there is no -- there is some possibility by financing because the federal government also gives some money to the universities but it's mainly the cantons who have the authority. And the second question is about specialization of vocational schools according to cantons.

Yes, there is some, but this depends very much on the economic situation of the canton.

If one industry is strong or one trade, one certain branch is strong, and then you have classes in these special fields, in this occupation, and so there might be some specialization.

And if you were in a special occupation, you might have to travel a little bit to go to some other place for vocational school.

Yes.

>> Does the federal government or the cantons collect evaluation data on students and employers?

>> HAEFELI: The question is whether the federal or cantonal authorities have evaluation -- or do evaluation studies, follow-ups of their graduates.

So far, hardly no studies exist, because the system has been functioning so well.

(Laughter)

That's one explanation.

That's what the USID report says.

In the last few years there has been some change and some debate on whether the system really works that well in the future.

So far, it works really well.

So in research, I'm glad that there is some change and that there is some questions being made.

And, in fact, the director of the federal office for vocational career and professional education was amazed when he got appointed director that there was hardly any research on vocational education in Switzerland.

So we have set up now a fund, finances of several millions a year to do research in vocational education.

And this includes evaluations.

But so far, hardly not.

Yes?

Phillip?

>> PHILLIP: (Inaudible) in this system (inaudible) the growing need for flexibility and broader (inaudible).

>> HAEFELI: Uh-huh.

>> PHILLIP: I think that is (inaudible).

>> HAEFELI: Yeah.

>> PHILLIP: (Inaudible)

>> HAEFELI: Yeah.

The question is how does the Swiss vocational system react to the growing need for flexibility to broaden the qualifications.

Of course, that was one of the questions that I asked, and I think

there are some answers that are given.

For example, in the machine industry, there has been a large reform in the last four or five years whereby the number of occupations have been reduced dramatically from over 25 to about 5 different occupations.

So they are broader now.

You're not as specialized when you're finished.

Of course, the question is, what do you learn then?

But the goal is clearly that young people are being preferred -- are being trained on a much more broad scale, much more -- to be much more flexible.

And this has come from the industry itself because they cannot use very specialized people anymore because the things change so fast so they have to have people who have broad abilities, what we call key qualifications.

There is a lot of searching going on in how to do this and how to train young people in -- in developing broad capacities, capabilities.

Yes?

>> Speaking of broad capacities and change, after the normal (inaudible) is over in whatever form, (inaudible) or somebody (inaudible) maintain skills, that type of thing?

>> HAEFELI: Uh-huh.

The question is related to the broad capacities, if in continuing education the government is doing very much or has a policy.

I would say at the moment, no.

The further continuing education is regarded as an individual kind of enterprise, whereby the individual is responsible, and so there's not much money going into it.

There's no legal foundation for it at the moment.

And the firms do it, you know, very much according to their needs, of course.

They have their training schemes for whatever is going on, but not in a broad sense.

So it's very much on the -- upon the individual to keep up and to do what we call the lifelong learning.

But I think that's another big question.

And what we're trying to do -- and this has been a major reform of the Swiss continuing education -- is to build up a credit system.

I mean, I don't have to tell you how that works.

(Laughter)

But for the Swiss system, which is much more built upon long kinds of education and then a final examination, to break this up and make modules, what we call it, and to finish each module and get credit for it, that's a major reform, I would say paradigm change that's going on right now, at least on the level of continuing education.

Yes, Phillip.

>> PHILLIP: (Inaudible)

>> HAEFELI: Yes.

The question is whether this module or credit system plays a role in the initial training.

Yes, the first was developed for the continuing education, but then, of course, associations think, okay, if this works here, why can we not transfer it to initial training?

So there is some experimenting going on, for example, in the information technology occupation or out in the business occupation, where there are a lot of changes now.

And so we are trying to build a combination of traditional apprenticeship, where you have a certain degree of basic training for everyone, and then in the second or third year, you have specialization according to the needs of the firm and the needs of the individual, more on the module base, that kind of training.

Yes?

>> The opportunity for (inaudible) for adults to attend in one area, for example, (inaudible) university at a later time in life.

(inaudible) back in the university system, or are they pretty well -- (inaudible)?

>> HAEFELI: The question was what kind of possibilities are there for adults to get into the educational system again, for example, a carpenter going to the university.

I would say your system is more flexible than our system.

If you want to be precise, we can say, for example, in Geneva there is the possibility for adults without the maturity, without this university certificate entrance ticket, to get into the university on a portfolio basis, but that's not the general kind of thing.

So there is a lot of debate going on on opening up the system, but at the moment, I would say it's not as flexible as the system here.

Yes?

>> (Inaudible) (inaudible) (inaudible) (inaudible)?

>> HAEFELI: The question is, the male and female proportion in apprenticeships and wage -- if there are wage differences during the apprenticeships and for afterwards.

Yes, there is a difference.

I think almost every western country, you see these differences.

In Switzerland, even though we have -- we have laws and federal acts on this, which you are not allowed to do this, but there are still differences.

And the main difference is that males and females go into different occupations.

And the female-dominated occupations are less well paid, and so you have your differences even during apprenticeship and afterwards, as well.

For example, in the health professions, they're not as well paid, as, for example, policemen.

So there is a lot of debate going on in this field.

And even within the same occupation outside of the federal branch, where I would say studies show that it's pretty equal outside, you

have a lot of reasons why women get paid a little bit less.

>> (Inaudible) effort to improve (inaudible)?

>> HAEFELI: Yes, there's -- the question was whether there is any encouragement for young women to go into occupations that pay them better.

Yes, there have been some proposals, and there is a lot of money spent right now to get young people into apprenticeships, like I said, and there is -- more than one-third of the budget is reserved or contained especially for young women and to create more equality among the sexes.

But I will say the Swiss system, as far as gender equality is concerned, it's a very conservative system.

And one explanation is that in the past Switzerland has been so rich that women didn't have to go to work, so it's a very kind of -- not very, but it's a traditional system.

>> (Inaudible) what effect does that have on the (inaudible) population?

>> HAEFELI: Okay, the question was, does the language of instruction vary by region, and what effect does this have on foreign populations. Yes, the language varies according to where you're going to school. It's either French, Italian, or German or Romansh, and you have to acquire the language wherever you are going to school, which means that for Italian, going to school in the French part is easiest and in the German-speaking part because the differences are less.

So it depends where you are going to school, and we see less differences or less -- yes, less differences in the Latin-speaking

part of Switzerland.

But, of course, we have now the group of foreigners coming from other backgrounds and Slavic languages, and there you have problems in all the regions.

So this is a big problem.

And that's why we are trying to set up programs as far as language training is concerned, but also -- there are also other matters to be taught before they enter the apprenticeship.

>> (Inaudible) (inaudible) (inaudible)?

>> LEWIS: It is on our Web site, www.nccte.com.

And it is available (inaudible).

>> (Inaudible.)

>> HAEFELI: Okay, the question was whether tapes are available.

(Applause)

>> HAEFELI: Thank you very much.

>> LEWIS: Well, thank you very much, Kurt.

We appreciate very much your very enlightening discussion of the Swiss system.

I think it always broadens our own perspective on our own systems here when we hear of other systems and the way they're structured to deliver workforce preparation and deal with many of the problems which we encounter also.

So we appreciate very much your willingness to meet with us.
Kurt also spent some time at our sister or counterpart institution.
Before coming to the Dissemination Center, he spent a few weeks in
Minneapolis-St. Paul with the National Research Center for Career and
Technical Education, and the director of that center will be our
speaker in six weeks, on September 20th.
Dr. Charles Hopkins, the director of the National Research Center will
deliver our third in this series of professional development seminars.
I'm very pleased to see we have some guests in the audience today, our
state director, Joanna Kister, for Career, Vocational -- Career,
Technical and Adult Education.
I still fall back to the old terminology sometimes.
And I'm sorry, I don't know your name, but why don't you introduce
yourself.
>> I'm (inaudible), and I'm 100% (inaudible).
(Laughter)
>> (Inaudible)
>> LEWIS: Very good.
Well, thank you all for coming.
I want to express the regrets of our director, Floyd McKenney.
This is the second of these seminars which he has not been able to
host, but Floyd is actively disseminating.
(Laughter)
He is attending a technical assistance workshop, which is being
conducted by the Federal Office of Vocational and Adult Ed out in
Portland, Oregon all this week.
But he assures me he will be back for the third in this series when
Charles is here.
I also want to thank Brian, our technology director, for setting
everything up, and a special word of thanks to Steve Chambers and his
assistant, Jay Woo.
The chairs which you are sitting on were delivered at 1:00 today.
The chairs which had been in here this morning were all removed from
this room, and Steve got it all set up in time for the presentation.
So thank you very much.
We'll look forward to seeing you for Charles Hopkins' presentation.
(Applause)
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