A Comprehensive Education

Young people typically start a three- or four-year apprenticeship at age 15 or 16, after having finished compulsory education. They can choose from roughly 230 different occupations (SERI, 2016), ranging from mechanical engineering to health care and from banking to IT. Federal legislation pertaining to apprenticeships guarantees nationwide portability of these different degrees, meaning that when an apprentice graduates, he or she does so with a degree that is nationally recognized. Furthermore, upon graduation, they are prepared to go straight to work or pursue more education at the university level or professional certification.

Apprentices typically spend three to four days a week at their company, where they participate in actual workflows, assisted by their mentor. One or two days per week are spent at vocational school, where they learn occupational-related theoretical skills, but also general subjects that support their lifelong-learning abilities.

It is important to note that apprenticeships in Switzerland are comprehensive educational programs that do not just focus on a narrow skill set or one specific technique such as welding, bricklaying or accounting. For example, in the case of construction apprentices, bricklaying is just one of many techniques they learn. Other skills include concrete work, working with reinforcement steel, reading and implementing construction plans, and working with a large variety of machinery and equipment—to mention just a few.

And the same can be said for mechanical engineering apprentices; welding is only a small part of the skill set they are

Two-thirds of Switzerland’s young people earn a vocational education and training (VET) degree as their first professional qualification (SERI, 2016). This pathway represents an integral part of the country’s overall educational system—a system that features permeability between its different parts as a key characteristic. The motto is, “No degree without further educational possibilities,” and this feature of the Swiss educational system plays an important role in the continued popularity of apprenticeships. Apart from being trained in vital skills that enable them to succeed in the labor market, young people always have the opportunity to move on to higher education afterward or earn more certification.
trained in. They also receive training in manufacturing engineering—both conventional and with CNC machines; in measurement and test engineering; and assembly technology.

Commercial apprentices receive training in accounting and in IT user programs, as well as in languages. Furthermore, they receive in-depth training in subjects related to their company such as banking and insurance.

Last but not least, apprentices in all occupations further improve their soft skills due to their early exposure to a real-life work environment. That comprehensive training approach, which the labor market finds valuable, contributes to the high quality of apprenticeships in Switzerland. Graduates have many skills and they can move on or pursue different training if a specific technique is no longer needed at their company. In addition, their thorough training improves their ability to adjust to new technological developments in the future.

A Degree With Possibilities

Statistically, around 25 percent of all apprentices complete the federal vocational baccalaureate (FVB), either as part of their apprenticeship or afterward during a one-year program (SERI, 2016).

The FVB is a complementary degree to the federal VET diploma, and FVB holders are granted access—without having to take an entrance exam—to a university of applied sciences, where they can earn a bachelor’s degree and continue with a master’s degree afterward. In cooperation with a research university, it is also possible to earn a Ph.D. later on. Furthermore, FVB holders who choose to take a university aptitude test can enroll in either a federal institute of technology or in a state (cantonal) university (SERI, 2016).

And for those who choose not to get an FVB and forge a path for themselves with a federal VET diploma, there are other options. Graduates from apprenticeship programs can continue their education at higher education institutions, such as colleges of higher education, or obtain a federal diploma in nursing, tourism or accounting, or as a taxation expert, for instance.

Figure 1 shows the many educational opportunities for apprentices.

Public-Private Partnership: A Win-Win-Win Situation

Switzerland spends more than 1 percent, or $9 billion, of its GDP on its VET system (SERI 2016). Even though the apprenticeship pathway forms an integral part of the overall Swiss educational system, there is an important difference from its other parts: The VET system is a public-private partnership. While the Swiss educational system consists of public schools and pub-
lic higher education institutions for the most part, its VET system has a strong private-sector element. Switzerland’s companies fund 60 percent of its costs, spending a combined total of almost $5.5 billion annually on salaries for apprentices and training costs (SERI, 2016).

However, due to the productivity of the apprentices, the private sector generates a combined annual net benefit of approximately $500 million. Public support of the VET system amounts to around $3.5 billion, three-quarters of which comes from the cantons, which are comparable to U.S. states (Bundesrat, 2016).

The federal government contributes approximately one-quarter of the public funding for the VET system. It is a win-win-win system: companies train their future skilled workforce, as well as benefit from the productivity of mainly third- or fourth-year apprentices.

Apprentices win because they “earn while they learn,” receiving a modest salary that ranges from approximately $500 to $1,500 per month, depending on their year of training, the occupation and the company. They graduate not only debt-free, but also with qualifications that are in demand in the Swiss labor market. In addition, they obtain a degree recognized nationwide that allows them to continue their education.

Finally, the general public also benefits from the VET system since it contributes in important ways to the wealth of the nation and a robust middle class. There is evidence that the Swiss VET system helps to keep the youth unemployment rate low in Switzerland, which has one of the lowest youth unemployment rates in Europe. Also, graduates from apprenticeship programs have similar employment and unemployment rates as university graduates.

### Labor Market Orientation: Key for Success

What is the underlying reason why the Swiss VET system is able to generate such positive results? One important element is its strong labor market orientation. While the taxpayer funds approximately 40 percent of the Swiss VET system and thus provides an essential
Commercial apprentices receive training in accounting and in IT user programs, but also in languages. The infrastructure of vocational schools in every canton, this important public investment is supplemented by a strong commitment by the private sector. Companies know that their economic future depends on a highly skilled workforce. Even though participation in the VET system is voluntary, around 40 percent of all Swiss companies do so (SERI, 2016), choosing their apprentices according to their needs.

However, it’s not just companies that benefit: young people also have options and can choose from among one of the 230 occupations and among different companies. Their decision is influenced not only by their interests and talents, but also by labor market prospects, future professional pathways and the salary a specific apprenticeship program has to offer.

But the positive effects of market forces do not end there: not only do apprentices benefit from hands-on training in the workplace, but they also have access to the latest cutting-edge equipment and machines. Apprenticeship programs are regularly adapted to the newest technological changes companies face in their respective markets, thus, automatically updating the skill set of new apprentices.

At the same time, employees who graduated some years ago can either participate in further education programs or continue their professional educational pathway at a higher education institution, such as a technical college or a university of applied sciences.

All stakeholders have to keep an eye on parameters such as apprentice salaries, job prospects, training curriculum and the general working environment. These parameters do not remain static; some can be adapted to increase the attractiveness of an occupation if more apprentices are needed.

The Swiss apprenticeship system generates a large number of positive outcomes for students, the private sector and the nation as a whole, creating a strong and adaptable workforce equipped for lifelong learning.

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Switzerland is famed for the Alps, its chocolate and cheeses, and its beautiful landscapes. What many may not know, however, is that its fame is growing, at least in U.S. education circles, because of its apprenticeship system, or the vocational education and training (VET) system, as it is known in Switzerland.

The VET system is a unique apprenticeship model that two-thirds of students finishing compulsory education take part in. It is a system built on collaboration between the private sector (business), state governments and the Swiss federal government to build curriculum, set standards and define skill sets. It is a system that’s an economic boon for the country as a whole, industry and the individual citizens, especially the middle class.

I had the opportunity to interview Martin Dahinden, ambassador of Switzerland to the United States, at the Swiss embassy in Washington, D.C. He is passionate about the VET system and is committed to strengthening the relationship between Switzerland and the United States.

Switzerland has been ranked first in the global innovation index, with quality and innovation being two characteristics of the country. How do quality and innovation play into the success of the Swiss VET system?

I have given a lot of thought to the relationship between quality and innovation, and in some respects, there is tension between the two. If you are over-focused on quality, you don’t leave space for innovation. And if you are over-focused on innovation, you are not usually in a position to deliver high-quality outputs. But I think this is a general attitude of the economy and has less to do with the Swiss apprenticeship model specifically.

Nevertheless, VET graduates contribute to a skill mix that companies find useful: They are experts in the practical field who can work together with academics, e.g., engineers who graduated from universities. This combination of academic and practical knowledge can potentially foster innovation.
What makes the Swiss apprenticeship system work is that there is a shared responsibility between the public and private sectors.

The Swiss VET system is something that has old roots, going back more than 100 years, and it’s not a model I’m convinced that you can just copy and paste and apply elsewhere. In considering the Swiss system, there are a few things to remember. One is that apprenticeship has a different meaning in Switzerland than it does in the United States. In Switzerland, an apprenticeship includes a broad range of professions—from very classical blue-collar professions to service professions like banking, nursing and IT. Second, in Switzerland, it is not unusual for an individual to do an apprenticeship and then go to college. Third, students receive a small salary, which increases as they progress in their education; they do not have to pay for their education or run the risk of having student debt afterward. Lastly, when students participate in an apprenticeship, it’s easier for them to become independent and run their own business, especially say for instance in a bakery or a butcher shop, because they have seen what it takes to run it—how to purchase goods, how to balance a budget, what is the role of the boss, etc.

What makes the Swiss apprenticeship system work is that there is a shared responsibility between the public and private sectors. The private sector is in the driver’s seat when it comes to curriculum and content. It is very beneficial for the apprentices to have the opportunity to learn in a company that is successful in the marketplace. This means they are learning on the latest equipment and have access to the most up-to-date materials and working methods, and not outdated technology from 10 or 15 years ago.

Furthermore, the Swiss model allows students to go beyond the skill of the individual by learning how to interact with people with completely different professional backgrounds, in a different age group and with people in completely different roles. And in many cases, they are learning to interact with the customer, as well. Learning these types of skills is challenging when there is only classroom training. Conversely, classroom training provides another type of learning that students cannot necessarily obtain in their company’s specific focus. We find this combination of classroom and hands-on training the key to our success.

I did not do an apprenticeship, but my brother and father did, and my son is doing one. I’m an exception in the family, but I am convinced that it’s a very useful model.

How do you see the VET system changing in the coming years?

As with any system, it will need to adapt to changes in technology, the marketplace and industry. The VET system is not something static: For instance when new professional qualifications are required for a certain industry, it takes time and skill to translate these qualifications into an apprenticeship; but through the cooperation between industry, business associations and government institutions, this sort of adaptability is possible.

There have been a number of U.S. delegations that have gone to Switzerland to observe the VET system. What are people surprised by the most when they see students in action?

In 2015, I visited a Swiss company with U.S. Secretary of Labor Thomas Perez and our vice president at the time, Federal Councillor Johann Schneider-Ammann, and they were very surprised by how self-confident the apprentices were, and that they were able to clearly explain what they were learning and doing. I was surprised myself by their confidence, which is something that I think is the result of the work environment; they are not only in a classroom day after day with the teacher who talks.

Also, I think people are surprised by the fact that the work is interesting, and that the workplaces are very modern. Very often visitors imagine the workspace is some dirty shop with old equipment. That is not the case.

Once an apprenticeship is complete, do most continue on with more certification or do they start to work?

What comes next depends a lot on the individual, as well as the company. There are those who when they finish an apprenticeship decide to stay in the company, which is good if the company is able to hire this person. However, there are cases when the apprentice would like to stay, but the company is not able to employ the person, which is often the case with very small companies, so the apprentice has to go elsewhere. Companies have different philosophies on how to handle “surplus” apprentices—try to continue training and investing in the individual or let them go to find work elsewhere and find a new path.

Around a quarter of the graduates decide to go to a technical college or to a university of applied science to deepen their knowledge and earn more certification. But an individual could also go in a completely different direction. For instance, someone can become a teacher who first started out as an apprentice—our education system is permeable.

There can be a lot of pressure on students to get a four-year degree here in the United States. Those who may want to do an apprenticeship are often looked down on, but you don’t have that same stigma in Switzerland. Please talk more about that.

It is difficult for me to tell you why it is this way in the U.S.; however, I can tell you why it’s not the case in Switzerland. In Switzerland, an apprenticeship is considered a well-respected education; it is not a “second” option. There are people who could go the purely academic route, who have the tenacity, financial resources and the grades, etc., but instead they just decide to go
the apprenticeship route. This person may say, “Well, I think I’m better off when I learn something for three or four years and have a profession where at any moment I can go into the labor market and do something different.”

CTE teachers on the local level may find it difficult to get business and industry support. But that is not necessarily the case in Switzerland. Are there any incentives provided by the government for these companies to participate in the VET system? What advice would you give to CTE teachers looking to get more business and industry involvement in their programs?

If you go back in Swiss history, you’ll see that companies educated people before the government started to play a role. Since the time of industrialization, people received training where they worked, and the government did not regulate the company; it was something developing in parallel. I think if a CTE teacher wants to get more industry support, he or she needs to find companies that are committed to joining together with a common goal, a sort of outreach to start a collaboration. I don’t think that a government can establish an apprenticeship system on its own. They need the support of the private sector.

It is encouraging that there are initiatives in some states where sector-wise, companies are working together with local schools to develop a curriculum, like Apprenticeship 2000 in Charlotte, North Carolina. This type of collaboration started a long time ago for some Swiss companies in the United States, when they weren’t able to find the workforce. Now it’s more of a focus with the U.S. government.

If there were one or two things you could tell the individual CTE teacher about the experience an apprenticeship can bring, what would it be?

When I was young, I worked at a bank and my job there was similar to a CTE teacher’s. I had the chance to interact with and teach a number of apprentices. What I found very exciting was that the apprentices who had worked in another place, say a different department in the bank, brought a kind of experience in the classroom that was inspiring; they were multi-faceted, more interesting and well-rounded than the ones who had no prior work experience. I’ve also taught at places that didn’t have apprenticeships and the atmosphere wasn’t the same. It was more interesting with apprentices. Apprenticeships allow for a much richer exchange in the classroom.

I would also add that teachers need to stay up to date and not rely on something they have learned when they were a young person.

As an ambassador and as an individual, what would you like your legacy to be?

My aspiration is to strengthen and deepen the relationship between Switzerland and the United States. There was a time back in the 19th century when both countries were the only republics on the planet! I would like to build on this kind of heritage and longstanding friendship that goes back many years, politically and economic-wise. I also believe that what is very important is to work on the image of Switzerland in the U.S. and the image of the U.S. in Switzerland. That is what I’m here in the U.S. to do. Tech

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