Professional and vocational education and training in Switzerland

An Edge Study Visit

David Harbourne, Director of Policy and Research, the Edge Foundation

I visited Switzerland in September 2014 to take part in the International Congress on Vocation and Professional Education and Training held in Wintherthur. Delegates also had the opportunity to visit workplaces and colleges.

This report starts with a brief account of my visits to Unilever’s factory in Thayngen and a vocational training centre in Schaffhausen. I am very grateful for the hospitality and generosity of all the people I met during these visits, who talked with great enthusiasm about the Swiss approach to professional and vocational education and training.

The next section of the report provides more information about the Swiss education and training system, drawing on reports in English, French and German. My French is tolerable, my German terrible: I accept full responsibility for any mistakes in translation and interpretation.

Finally, I add a few thoughts on the implications for vocational and professional education and training in England.
Overview

Although there are exceptions to the rule, countries with a strong commitment to vocational education and training (VET) tend to experience lower rates of youth unemployment.

Switzerland is a case in point. At the end of 2012, only 6% of all 16-24 year olds were not in education, employment or training, compared with an OECD average of 12.6%. And in 2014, the World Economic Forum placed Switzerland top of their global competitiveness rankings for the sixth consecutive year\(^1\).

A key factor in Switzerland’s success is its investment in VET - particularly apprenticeships. As many as 70% of Swiss young people choose vocational options at 15+. VET is the norm, not the exception. And after initial VET, many people progress to professional education and training, PET.

This state of affairs has not come about because of a short-term plan or political initiative. It is deeply engrained in Swiss culture. Young people, parents, employers and politicians are in no doubt that vocational pathways lead to economic security.

That said, the system has not stood still. In response to the globalisation of the economy, Switzerland has increased the proportion of people with degrees and higher level professional qualifications. However, this has not been achieved simply by encouraging more young people to go directly from school to university: instead, it has been made easier for people to progress from apprenticeships to universities of applied science and other forms of professional education and training. There is also a strong emphasis on developing social capital, which makes it easier for people to move from job to job and sector to sector as the economy evolves.

The Swiss approach to education and training is very different from the Anglo Saxon model, and most commentators believe it would be impossible to implement Swiss-style vocational education and training in the UK or USA. However, Northern Ireland’s apprenticeship reforms draw inspiration from Switzerland: perhaps they will prove that we could all benefit from being more Swiss.

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Visit to Unilever, Thayngen

Unilever’s factory in Thayngen employs between 10 and 14 apprentices each year in a workforce of about 180. First, we met a food technology apprentice, Patrick, who told us about career lessons at school, an orientation period which provides insights into different types of apprenticeship, and a work experience placement which had helped him decide to apply for a place at Unilever. Places at the Thayngen factory are much sought after, and Patrick faced tough tests and interviews before being accepted.

During a factory tour, we met two apprentices working on the production and packaging of powdered products. Their tasks were essentially routine. One apprentice’s job was to run a packaging line for powdered flavourings. The task includes making sure empty packets flow continuously down the conveyor belt and checking that the machine correctly overprints a batch code and “best before” date onto each packet. The apprentice talked us through the process in English, with the aid of a display panel she had prepared. The other apprentice was making batches of dried soup mix. He places pre-measured ingredients into a large mixing machine, sets it going and monitors the mixing process. I asked whether anything had ever gone wrong: he assured me nothing ever had in his time there. However, his supervisor provided two examples based on previous apprentices’ experiences. First, an apprentice could lose concentration and forget to add an ingredient. If the mistake is spotted only when the finished product goes through quality checks, the whole batch has to be discarded. Second, a fan blowing air through the mixer can get clogged up and stop working properly. This isn’t the apprentice’s fault, but it requires him or her to be constantly observant, to know when it is appropriate to press the emergency stop button and when to call for help.

Both apprentices gave examples of knowledge relevant to their work. The packaging line apprentice was learning about food allergies and food safety regulations. The apprentice supervising the mixing machine talked about agglomeration, the process by which ingredients clump together: this ensures that every packet of instant soup contains the correct mix of ingredients and flavours, and always dissolves quickly and uniformly when the customer adds boiling water. The apprentice proved the point by giving me a packet of soup, kettle, bowl and spoon.

At the end of the three-year apprenticeship, there is a full week of work-based assessments. We saw a video case study in which an apprentice demonstrated his knowledge and skills in all aspects of food production:

- Receiving deliveries of ingredients, verifying documents, taking samples and carrying out quality checks
- Blending semi-finished goods
- Producing soup mixes
- Setting production line parameters
- Preparing and maintaining production records
- Overseeing the packaging line
- Carrying out final quality tests in the laboratory, including assessing the taste, aroma and texture of finished products

The apprentice also had to carry out a research project, prepare a written report and make a PowerPoint presentation summarising his findings and recommendations.
Visit to the vocational training centre in Schaffhausen

After leaving Thayngen, we visited three campuses of the Berufsbildungszentrum (BBZ) in nearby Schaffhausen. The BBZ is a vocational training centre which offers courses in 38 different vocational and professional programmes.

Apprentices spend between one and two days a week at the BBZ, divided as follows:

● Between half and two thirds of the timetable is spent learning knowledge and theory linked to their chosen occupations
● Up to a third of the timetable is spent on general education including languages, law, social studies and business studies
● The remaining time (typically around 10%) is available for sport and exercise.

In the course of their studies at the BBZ, apprentices write a variety of short reports and longer essays, make oral presentations and take part in discussions.

Foreign languages are often taught in context. For example, we met a group of apprentice chefs who were checking a delivery of fish for quality, quantity and freshness: the class was taught entirely in English.

In social studies, apprentices cover a broad range of social, economic, environmental and political topics affecting Switzerland and the wider world. We met a group of early years apprentices who were discussing topics for extended essay projects, guided and observed by their tutor.

Throughout their time at the BBZ, apprentices also develop their social and interpersonal skills, with a particular emphasis on effective relationships with clients and co-workers.

Attendance at the BBZ is compulsory. Unauthorised absence results in a fine of 50 Swiss francs (about £33) per lesson. Unauthorised absence on any three days (which don’t have to be consecutive) triggers a formal disciplinary hearing, which could result in the apprentice losing their place at the BBZ - and their job.

Some vocational teachers at the BBZ work full-time, while others have careers in industry and work at the BBZ one or two days a week.

Inter-company training

A food technology teacher, Ronja Sakata, told us about inter-company courses taught at the Strickhof training centre in Wädenswil. Strickhof is the German Swiss centre for education and training in agriculture and the food industry.

Apprentices from the Unilever factory in Thayngen are among those who go to Strickhof to study food technology. Courses are developed and delivered in partnership with the Association for the Training of Food Technologists (Arbeitsgemeinschaft für die Ausbildung von Lebensmitteltechnologen).

A typical course might cover all aspects of - say - potato crisp production. Apprentices learn about the selection, handling and preparation of potatoes; equipment; oil quality and temperature; flavouring; packaging, labelling and shelf life; health, safety and food hygiene; and quality control. Apprentices make batches of crisps under supervision and visit a factory to see them being made in bulk.

Courses at Strickhof are residential, and mainly last three weeks. Food technology apprentices attend four courses in their first year, five in the second year and three in the third year. They go back to Strickhof for a one week assessment at the end of their apprenticeship: this is in addition to final assessments in the workplace and exams at the BBZ.
Lower and upper secondary education in Switzerland

Compulsory education in Switzerland is organised by the cantons rather than central government, which means there is considerable variation from place to place. However, education systems are gradually being harmonised.

Lower secondary education usually starts at 12. From 2015, it will last for three years in all cantons except Ticino, where it will last four years. Pupils are streamed by ability. Indeed, cantons generally have two or three different types of lower secondary school: in Aargau, for example, pupils attend a Bezirksschule, Sekundarschule or Realschule. Allocation to a school (or stream within a school) is based on prior academic performance, attitude to work and social conduct. In some areas there is a test at the end of primary education.

At 15, students move on to the upper secondary phase, which lasts between three and five years.

Apprenticeships (Berufslehren) are by far the most popular upper secondary choice. Around 60% of young people start apprenticeships immediately after completing lower secondary education. A further 10% start apprenticeships later, including a significant number who have spent an additional year at a lower secondary school or on a pre-apprenticeship programme.

Just over a quarter of all young people follow a general upper secondary education at a Gymnasium (or gymnasiale Maturitätsschulen), which prepares them for the general baccalaureate and in most cases, direct entry to higher education. Young people who achieve high scores in PISA reading and maths tests are more likely to choose this route than vocational education and training. Nevertheless, many young people with high levels of attainment choose apprenticeships instead. Geneva is the only canton where there are more young people in general education than in apprenticeships.

About 5% of young people attend specialised upper secondary schools (Fachmittelschulen, Handelsmittelschulen and Wirtschaftsmittelschulen), where they follow a 3-year programme leading to a specialised baccalaureate. Specialisms in Fachmittelschulen include design, education, health, media, music, social work and theatre. Handelsmittelschule and Wirtschaftsmittelschule specialise in business administration and commerce. Most of these students later study at a university of applied sciences or teacher training college.

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2 Stefan C. Wolter, Maria A. Cattaneo, Stefan Denzler, Andrea Diem, Silvia Grossenbacher, Stefanie Hof, Chantal Oggenfuss, Swiss Education Report 2014. Arrau: Swiss Coordination Centre for Research in Education
The Swiss approach to apprenticeships is often described as a “dual system”, referring to the combination of workplace learning and off-the-job training and education. In fact, it could be called a “triple system”, because apprenticeships have three components -

1. Supervised workplace learning and experience
2. Weekly general education in a local vocational college
3. Inter-company training courses (überbetriebliche Ausbildung), specific to the vocational field.

Courses are usually residential. The total time spent on inter-company courses varies widely across apprenticeship frameworks, from eight days upwards.

Responsibility for vocational education and training is shared by the Confederation (ie the national government), cantons and professional organisations (POs). POs bring together trade associations, industry bodies, trades unions and VET providers to establish the content and objectives of VET programmes, define national qualifications and organise inter-company courses. POs raise income from voluntary subscriptions, but may also receive income from a small levy on employers to support their running costs (⇒ box, right).

Two-year apprenticeships lead to a Federal VET Certificate in one of 42 different occupations. Three- and four-year programmes (which are far more common) lead to a Federal VET Diploma in a range of 230 occupations.

The Federal VET Diploma can be supplemented by an extended general education programme leading to a Federal Vocational Baccalaureate (FVB) which entitles the holder to enrol in a Swiss University of Applied Sciences without having to take an entrance exam. The FVB can be obtained either on a part-time basis during the apprenticeship, or during an additional year of schooling after completing the apprenticeship. In 2012, 13.7% of people who achieved a Federal VET Diploma also obtained an FVB.

Under the Federal Vocational and Professional Education and Training Act provisions, companies within a given economic branch contribute to a corresponding VPET fund, which is used to cover the cost of VET and PET activities (eg development of training programmes, organising courses and qualification procedures, promotion of specific occupations). The Confederation may declare some VPET funds to be of general interest and therefore mandatory for all companies within a given economic branch.

Vocational and Professional Education and Training in Switzerland 2014

Public expenditure on VET amounts to about 3 billion Swiss francs (£2 billion) per year. The cantons bear the majority of the expenditure, but the Confederation’s contribution has risen over the last decade from 16% to 25% of the total.

In addition, employers contribute about 2.5 billion Swiss francs in apprentice wages and a further 2.8 billion on training and ancillary costs. Calculations by the leading economist Dr Stefan Wolter suggest that on average, employers see a fairly rapid return on this investment, because apprentices contribute to their firms’ productivity. Wolter and his colleagues have calculated that strongly positive returns are to be expected when training (for example) dental assistants, painters and gardeners. Employer investment is not fully repaid during apprenticeships for car mechanics, IT specialists, cooks and electronics engineers: however, the balance is likely to shift in the employer’s favour within a year or two after the completion of the apprenticeship.

3 State Secretariat for Education, Research and Innovation, Vocational and Professional Education and Training in Switzerland 2014
4 Wolter et al, Swiss Education Report 2014
Case study: SwissMEM

SwissMEM is the largest professional organisation in Switzerland. It represents mechanical and electrical engineering employers (MEM industries) and sets apprenticeship and professional training standards for:

- Apparatus engineers
- Automation engineers and technicians
- Commercial employees in MEM industries (eg specialists in MEM sales and marketing)
- Design engineers
- Electronics engineers
- Information technology engineers
- Mechanical engineers, technicians and assistants

Detailed apprenticeship specifications provide clear examples of the skills to be learned and assessed. For example, an apprentice engineer might be required to assemble a piece of machinery. To pass the assessment, the apprentice needs to:

- Complete the task in accordance with written specifications
- Plan the task (eg decide the order in which components will be assembled)
- Organise equipment, tools and devices
- Set up the assembly workplace
- Fit together all components and sub-assemblies
- Observe relevant regulations (eg health and safety)
- Carry out and record quality checks (eg check alignment, settings etc)
- Record and evaluate the assembly sequence
- Carry out a final inspection

Apprentices also develop social and personal skills including:

- Ability to learn
- Working methodically
- Creativity
- Quality awareness
- Efficiency
- Safety at work
- Environmental protection
- Team work
- Company loyalty
- Independence
- Flexibility
- Coping with change

Further information: http://www.swissmem.ch/en.html
Levels of intellectual demand

As noted already, some Swiss apprentice-ships last two years, but most last three or four. Two-year programmes are in the minority, and are almost always taken by young people with low levels of attainment at school.

The Vocational Guidance and Information Centre in Bern (Berufsberatungs und Informationszentrum) has grouped 3- and 4-year apprentice occupations into six groups according to the perceived level of intellectual demands placed on them. Examples include:

- Group 1: baker, hairdresser, care assistant, forest ranger
- Group 2: florist, hotel room attendant, make-up assistant, cook
- Group 3: dental assistant, pharmacy assistant, farm worker, plumber
- Group 4: auto mechanic, electrical fitter, photographer, early years educator
- Group 5: medical laboratory assistant, optometrist, multimedia electronics technician
- Group 6: electronics technician, designer, computer software technician

Most apprenticeships in groups 1-3 last three years, while those in groups 4-6 are more likely to take four years.

Researchers have tracked young people who took PISA reading and maths tests in 2000 and later became apprentices. The results demonstrate a correlation between PISA results and the type of apprenticeship taken later. For example, 63% of apprentices in group 1 reached level 0, 1 or 2 in the PISA reading test, while 79% of apprentices in group 6 reached level 3, 4 or 5. Similarly, 65% of apprentices in group 1 reached levels 0-2 in the PISA maths test, while 72% of apprentices in group 6 reached levels 3-5.

The correlation is strong but not perfect. For one thing, some young people who reach levels 3-5 in PISA tests go on to choose apprenticeships in groups 1-3. Intuitively, that seems entirely reasonable: after all, they are perfectly entitled to make their own career choices.

Conversely, some apprentices in groups 5 and 6 achieved quite low marks in PISA reading and/or maths tests. Perhaps they simply had a bad day when they took the PISA tests; or perhaps they are in apprenticeships which require high levels of literacy but not maths, and vice versa.

A third possibility is that there are not enough high-achieving applicants for some apprenticeships, resulting in employers taking on apprentices with sub-optimal levels of prior attainment. This is suggested in the Swiss Education Report 2014:

If [employers in groups 4-6] are not very successful in finding apprentices, they will try and attract at least some of the pupils who would previously have opted for the occupations with a lower requirement profile.

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6 Wolter et al, Swiss Education Report 2014
Professional education and training (PET)

Switzerland has a mixed economy of universities. Students who pass their general baccalaureate can enter one of ten cantonal universities, two federal institutes of technology and five other university institutions. They have an automatic right of enrolment to any course at any of these universities (except medicine, which has additional entrance requirements). People who hold a federal vocational baccalaureate can enrol at one of these institutions if they pass an aptitude test or if they already hold a high-level qualification such as a degree from a university of applied sciences, though only for certain courses.

Universities of Applied Science (UASs) were launched in 1998 to provide a pathway to higher level qualifications for holders of the vocational baccalaureate. Holders of the general baccalaureate can also apply; and some UAS courses are popular with overseas students.

There are seven public UASs and two very small private ones. Since 2008, they have been able to award Masters’ degrees as well as Bachelors’ degrees and Diplomas. UASs account for about a third of all full degree programmes in Switzerland, with universities of teacher education delivering a further 7% and conventional universities the remainder.

Subjects taught at UASs include:
- Architecture, construction and planning
- Technology and IT
- Chemistry and life sciences
- Agriculture and forestry
- Business administration and services
- Design
- Music, theatre and other arts
- Applied linguistics
- Social work
- Applied psychology
- Health

Many people also take occupationally specific exams, leading to the Federal PET Diploma and Advanced Federal PET Diploma. Both combine work-based experience with knowledge and theory and are seen as a natural progression from VET programmes, including apprenticeships. Courses to prepare candidates for the PET Diploma exams are widely available: indeed, a recent report by Kuhn and Schwieri estimates that about 900 providers offer such courses. Information is not collected centrally, and details of the duration and cost of the many different programmes are not easy to find. It is clear, however, that some occupations are better supported than others.

The fees payable to course providers also vary. On average, Kuhn and Schwieri estimate that courses leading to the PET Diploma currently cost nearly 10,000 Swiss francs on average; exam entry fees, course materials and other costs bring the total closer to 14,000 Swiss francs. For Advanced PET Diplomas, the costs are 14,000 and 17,500 Swiss francs respectively. (1 Swiss franc = 67 pence.) Fees are payable by the individuals taking the course, though many receive financial help from their employers, and some also benefit from small subsidies paid to providers by the cantons.

The Confederation has concluded that PET Diplomas are of great value to the Swiss labour market. The government is therefore planning to introduce direct federal subsidies, which will replace the much lower subsidies currently paid by cantons. New subsidies be payable to individuals rather than their providers.

The Confederation hopes this will encourage greater take-up of PET Diploma courses at both levels, though there is a risk that the new subsidies will replace part or all of the financial support which many employers currently provide to their staff.

9 Kuhn A and Schweri J (2014), Le nouveau financement de la formation professionnelle supérieure et ses effets, in La Vie Economique 9-2014
Challenges facing professional and vocational education and training in Switzerland

The Swiss PVET system clearly has huge strengths. Not surprisingly, it is seen as among the very best in the world.

But the system does not stand still, and policy-makers, social partners and practitioners are on constant alert for emerging challenges.

One challenge is that a quarter of young people have difficulty moving directly from lower secondary education to apprenticeships. This particularly affects lower-attaining students, who may have to accept a bridge-year programme - if indeed they find an immediate place at all.

Second, there is a mismatch between apprentice places and the number and quality of applicants. This is mainly felt in sectors offering the most intellectually demanding apprenticeships, groups 4-6.

The August 2012 apprenticeship barometer indicated ... 7,000 unfilled apprenticeships, corresponding to 8% of the available apprenticeships, and also showed that vacancies were predominantly in [groups] 4-6 technical apprenticeships, with 60% of firms stating that the main reason for places not being filled was that they had received no suitable applications. Another 25% even reported not having received any applications at all.

Wolter et al, Swiss Education Report 2014

Skills shortages may get worse in the near future, owing to a progressive fall in the number of young people leaving lower secondary education. The number of young people in this age group is set to fall by 7% between 2014 and 2018, before starting to rise once more.

There are also concerns about attitudes towards vocational and general education. The Swiss Education Report noted the results of a survey of 2,800 Swiss adults:

Just 11% are of the opinion that people with vocational and professional education and training would have a higher social status than people who went to a baccalaureate school.

Attitudes are also changing because of an increase in the number of migrant families settling in Switzerland. Regardless of their own education and qualifications, most migrant parents would prefer their children to go to a gymnasium, take the general baccalaureate and progress to a conventional university.

There is a corollary to this in the changing structure of the economy. Most companies moving into the country do not have Switzerland’s long history of investing in work-based learning. As a result, small firms in particular are less likely to offer apprenticeships than their Swiss counterparts, and even among larger firms there is a tendency to think that vacancies should be filled by university graduates rather than former apprentices. This goes hand in hand with a belief that Masters’ degrees are “better” - or at least, more prestigious - than Switzerland’s Advanced Federal PET Diploma.

Finally, there are questions about the flexibility of the apprenticeship system, which meets many needs very well, but does not always keep pace with changes in the labour market. Josef Widmer, Deputy Director of the State Secretariat for Education, Research and Innovation, suggests that the system needs to adapt to meet the needs of adults who want to (or have to) change career. He also suggests that apprenticeships are under-represented in the high technology and service industries.10

That said, Widmer remains essentially optimistic about the future. He concludes his article in La Vie Economique by pointing to reforms implemented over the last decade, the introduction of apprenticeship frameworks for new occupations, and the principle that all pathways should support future progression, rather than lead to dead ends.

10 Josef Widmer, La formation professionnelle suisse proche de la pratique et prête pour l’avenir? In La Vie Economique, edition 9-2014
Learning from Switzerland

I have admired the Swiss professional and vocational education for many years. Until quite recently, however, I did not feel the need to understand it in any detail because - as everyone always says - Switzerland is very different from the UK.

Whilst a majority of Swiss school leavers choose apprenticeships, only 3% of English 16 year olds and 6% of 17 year olds choose that path. Instead, we have consistently favoured the expansion of academic pathways, including full-time higher education leading to bachelors’ degrees. In Switzerland, apprenticeships are seen as a path to high skills and a successful adult life. Here, they’re seen as a distant second best to A levels and a degree.

However, Swiss apprenticeships always struck me as unnecessarily rigid. The standard duration - usually three or four years - seemed old-fashioned to those of us involved in creating Modern Apprenticeships in the early 1990s. We did away with the idea of “time served” apprenticeships because people learn and develop at different speeds. Modern Apprentices were required to meet minimum standards set out in National Vocational Qualifications. Their skills were assessed by observing them at work and their underpinning knowledge by asking them questions. Apprentice A might take a year to reach the required level of competency; Apprentice B, two years. Why make Apprentice A wait for a completion certificate just because Apprentice B needed more time?

More recently, policy-makers have questioned the quality of apprenticeships lasting less than a set time. The Coalition introduced a rule that no apprenticeship could last less than 12 months, and it is suggested that level 3 apprenticeships should last at least two years.

As a veteran of Modern Apprenticeships, my instinct is always to question rules as rigid as this. If someone really can complete an apprenticeship in 18 months rather than two years, where is the added value in making them wait an extra six months? To put it another way, if employers’ skill needs are met in 18 months, what will apprentices learn in the remaining six months?

My views started to change when I read a wonderful book by the American author, Nancy Hoffman, “Schooling in the Workplace”. Nancy drew on case studies, interviews and visits to show how apprenticeships make a difference to the lives of young people in Switzerland and five other countries.

I was particularly struck by a passage about Swisscom, Switzerland’s largest telecoms company. Apprentices apply to work on internal projects lasting between two months and a year. Competency experts help apprentices turn the projects into a set of outcomes linked to their apprenticeship programme.

So far, so good. Nancy then describes a visit to a Swisscom phone store, where a 16-year-old apprentice was “indistinguishable from the other employees”.

An Australian government official who had joined the visit asked a seemingly obvious question: “Why would you need three years to train someone to work in a phone store?”

Nancy’s answer is telling.

This was the wrong frame for the question. Of course, one could learn to sell phones in three months, or even less, but the phone store apprenticeship filled quite a different need in the development of the sixteen- to eighteen-year-olds who chose this route to the “working life” … The phone store apprentices were participating in a three-year structured transition to adulthood.

Reading that, I realised that I’d missed something important about the Swiss apprenticeship system. Where we see
apprenticeships as a form of training, Switzerland sees them as a form of education.

I explored this point further during my visit to Switzerland. Current and former apprentices were clear that they were learning far more than the skills needed to do a particular job - important as those skills are. At the BBZ in Schaffhausen, apprentices take courses in language (German, English and French), communication and society. Project work fosters research and communication skills, both written and oral. And there is a strong emphasis on social and interpersonal skills, with a particular focus on effective relationships with clients and co-workers.

This was underlined by Ronja Skata, who said courses at the Strickhof training centre in Wädenswil help young people from different companies, towns, villages and social backgrounds learn to live and work together. Indeed, many apprentices form lifelong friendships with people they meet at Strickhof.

Speaking to a Swiss employer, I said that in the UK, an apprenticeship with a fixed duration of three or four years would seem inflexible. He said, "We have the ability to create entirely new apprenticeships linked to emerging jobs and careers. How long will these new apprenticeships take? Three or four years. Why? Because that's how long apprenticeships last. Everyone knows that." He agreed that for employers, this could seem both long and inflexible. But he came back to the central point: apprenticeships offer an education for life, not just training for a job.

Then there's the vexed question of levels. When we developed National and Scottish Vocational Qualifications, we tried to fit everything onto a neat ladder, with level 1 acting as the first rung, level 2 the next, and so on.

That's all very logical, and within a particular career path it often makes a lot of sense despite a host of tricky issues: for example, should a particular skill or a particular piece of knowledge fit into level X, Y or Z? There are arguments, too, about including skills that are used in some workplaces and not others: not all bakeries make doughnuts, for example, so should all candidates for a craft baking NVQ have to show they can make them?

The Swiss system seems rather more relaxed about teaching skills not used in the apprentice's current job. Unilever doesn't make crisps at its Thayngen factory, but its apprentices learn how to make them at the inter-company courses at Strickhof.

Similarly, the Swiss system is less hung up on levels. Yes, there are two-year programmes, which are deemed to be less stretching than full three- or four-year apprenticeships, and the Vocational Guidance and Information Centre in Bern has placed apprenticeships into six groups according to their perceived level of intellectual demand. Barbara Stalder has shown that there is some basis for this type of ranking system, based on her analysis of PISA test scores achieved by people who subsequently went into the apprenticeship system.

Does that mean that at the end of the apprenticeship, a baker has reached (say) level 2.5 and an electronics technician level 3.5? In UK terms, the answer might be yes, for all I know. But in Swiss terms, it doesn't matter. By passing their end assessments, the first has earned the right to call him/herself a baker, and the second to call him/herself an electronics technician. What matters is not the qualification you get, but the person you become.
Apprenticeship reforms in the United Kingdom

The United Kingdom has four education systems. However, it would be fair to say that none of the countries of the UK have - so far - followed the same path as Switzerland. That said, there is a growing consensus that we face a skills mismatch. We lack people with craft and technical skills, particularly in science, technology, engineering and maths (STEM). Improving technical pathways is seen as a key policy objective by all four UK governments. In working out what to do about apprenticeships, policy-makers have invariably looked at the Swiss, German and Austrian models, and occasionally also at Denmark and the Netherlands.

For example, the Minister for Employment and Learning in Northern Ireland, Dr. Stephen Farry MLA, launched a review in 2013 which included detailed studies of vocational and professional education and training in a number of other countries including Switzerland.12

In Scotland, Foundation Apprenticeships, piloted for the first time in 2014-15, offer the first year of a 3-4 year apprenticeship in the school senior phase - again, drawing on experience in Switzerland and other European countries.13

The Welsh Assembly Government launched a consultation on apprenticeships in January 2015. Quoting the Sutton Trust, the Deputy Minister for Skills and Technology, Julie James AM, noted that -

In countries such as Switzerland and Germany, whether you want to work in agriculture or banking, an apprenticeship is as much a vehicle of social mobility as a degree.14

In England, Doug Richard quoted Switzerland and Germany in his review of apprenticeships. He concluded that -

We have much to learn from these excellent systems; many of the core recommendations in this report owe much to their experiences. But I have not set out to turn English apprenticeships into German ones; while it may have been simpler, I cannot recommend we adopt a system built, over generations, upon a very different economy, labour market and social partnership.15

Richard’s reforms include the Swiss idea that “levels” don’t matter: he recommended that employers should define the skills and knowledge required to be effective in an occupation, and that the existing system of formative assessment should be replaced by a terminal assessment of the apprentice’s knowledge and skills. His ideas on employer co-financing also have some points in common with the Swiss model, though the systems subsequently proposed by the Coalition government were somewhat different.

Of all the apprenticeship models being developed or tested in the UK, Scotland’s Foundation Apprenticeships are closest to the Swiss approach. Like the Young

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Apprenticeships piloted (with some success) by the previous Labour government in England, Foundation Apprenticeships allow young people to learn work-ready skills in the workplace while still enrolled in the senior phase at school. They continue to study academic subjects and benefit from the social life of school, including sport, exercise, music, performing arts and a range of other support and enrichment activities.

Planned changes to apprenticeships in England do not offer a blend of education and training as broad as this. Apprentices who have not previously achieved grade A* to C passes in GCSE English and maths will have to try again or, in some circumstances, prepare for alternatives such as Functional Skills qualifications; but the principal future requirement facing all apprentices will be to pass a terminal assessment of their occupational skills and knowledge. In preparing new apprenticeship standards, employers have the option to add other requirements, such as passing a vocationally-related qualification (or “technical certificate” in current terminology), but there will be no equivalent of Switzerland’s courses in language, communication and society.

This is partly because apprenticeships are currently open to anyone aged 16 and over. Educational content designed with young people in mind would not be appropriate for adult apprentices.

In her review of vocational education, Professor Alison Wolf noted that by international standards, apprenticeships in England require very little by way of general education, adding -

This may be perfectly appropriate for adult apprenticeships, where apprentices were already, for the most part, either in employment before starting an apprenticeship, or extremely clear about their desired occupational route. However, as a general model, the current content and nature of apprenticeship frameworks fails to promote progression within education for young people.

...The degree of occupational mobility among apprentices in ‘large-apprenticeship’ systems [such as Germany and Switzerland], as well as the nature of the English labour market, both underscore the importance of including general education in frameworks for young (16-19) apprentices.16

This is not the place to set out in detail my own thoughts on apprenticeship reform in England, Wales, Scotland or Northern Ireland. However, I do now believe that apprenticeship framework should distinguish between adults retraining for new careers and young people taking their first steps into the world of work.

The integration of young people into society, the labour market and adult life is one of the secrets of Switzerland’s success, and one we would do well to emulate by broadening the educational content of apprenticeships for young people.

Wolf A (2011), Review of Vocational Education – The Wolf Report -
Professional education and training

Another secret of Switzerland’s success has been the determination to expand post-apprenticeship programmes of learning. The Federal PET Diploma and Advanced Federal PET Diploma are highly regarded within Switzerland, even if they are less well understood elsewhere: as noted already, the Confederation has decided to increase subsidies in this area to encourage even greater take-up.

At least as important has been the introduction of Universities of Applied Science. Their mission is reminiscent of England’s former Polytechnics. They also find echoes in the Coalition government’s plans for National Colleges and the Labour Party’s proposals for technical degrees.

Meanwhile in Scotland, the vertical integration of universities and colleges is intended to open new paths to advanced vocational qualifications, including Higher National Certificates and Higher National Diplomas.

In all parts of the UK, there are plans to extend apprenticeship pathways to higher levels. In England, Higher Apprenticeships and Degree Apprenticeships are intended both to support employers’ needs and provide an aspirational pathway for people who want to earn and learn at the same time.

There is more to be said on this aspect of Switzerland’s professional and vocational education and training system: but that will require a return visit!
A cake decorating class at BZZ Schaffhausen

Professional and vocational education and training in Switzerland

An Edge Study Visit