



Research Note 2.1
Encouraging Participation:
Trends in Pathways to Postsecondary Education

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January 13, 2010

Published by:

The Higher Education Quality Council of Ontario

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Cite this publication in the following format:

Lennon, M. C. (2010). *Encouraging Participation: Trends in Pathways to Postsecondary Education*. Toronto: Higher Education Quality Council of Ontario.



An agency of the Government of Ontario

The opinions expressed in this research document are those of the authors and do not necessarily represent the views or official policies of the Higher Education Quality Council of Ontario or other agencies or organizations that may have provided support, financial or otherwise, for this project.

1. Introduction

Globalisation and internationalisation have altered the economic base of many countries within the OECD. No longer can a country's prosperity draw from conventional manufacturing and trade; instead, countries are increasingly dependent on human capital to create economies based on innovation and creative industries. At the core of the knowledge-based economy (KBE) are individuals who, when provided with appropriate tools, are able to increase the productivity and further the wealth of an organisation, an industry, a region, and — ultimately — a nation. Higher education (HE) is a key factor for success in the development of human capital.

The strategies of nations with the goal of becoming part of the KBE include the development or re-development of education systems that encourage participation, allow students a choice of programs with opportunities for changing direction, and support people returning to formal education in order to update or enhance their knowledge and skills. The amount of government involvement in the planning of higher education varies in response to the needs of the ever-changing labour market. Resulting from the massification of higher education, HE systems tend progressively to become demand-led (with market forces determining HE options) rather than supply-led (whereby government actions determine program offerings). The balance between these forces defines a country's higher education system; increasingly, transitioning to a more responsive system involves flexible partnerships and interaction with all stakeholders — students, parents, community partners, business, industry, and other entities involved in the labour market.

Nations around the world are developing strategies to ensure higher education systems meet the demands of the labour market. Like other jurisdictions, Ontario is investing in human capital to ensure it has — and will have — a highly skilled workforce that can supply local needs and provide a competitive edge in global markets. This investment focuses on education and training as the foundation from which to increase the skilled and competent talent base that will fuel — and prosper in — the knowledge economy. In developing the strategies that will support the people, the industries, and the economy of the province, Ontario wants to learn from international experiences.

This report is the first of three that review international policies for enhancing higher education in knowledge-based economies. It focuses on the strategies that enhance participation in and movement within education systems, highlighting how nations encourage participation by individuals, businesses, industries, and local governments in skills development, education, and training. It examines policies and structures that encourage students to enter one of the HE systems and pursue the programs that will prepare them to contribute to the KBE. The report addresses some of these strategies: Pathways for Youth, Pathways to College, Vocational Training and Apprenticeship; Pathways to Higher Education, and Strategies to Increase Adult Skills Training. The

report examines documents from selected peers of Ontario within the OECD (primarily the UK, Switzerland, and Germany) for policies, strategies, and issues of implementation and outcomes. This report does not provide an exhaustive review of activities in each country; rather, it highlights the major, recent, and innovative strategies and, where possible, presents policy options.

The **second report** in this series, *A Fine Balance: Supporting Skills and Competency development for a Knowledge Based Economy*, examines the issues of programming for the development of skills and competencies within specific fields and within postsecondary education systems, reviews skills-matching issues, and discusses how different systems prepare students for work in the new economy. In this context, the policies and programs devised in the US and the UK offer the most relevant comparisons for Ontario. The **third paper** in this series, *Signalling Abilities and Achievement: Measuring and Reporting on Skills and Competency development*, examines issues in the assessment of skills and competencies. Determining learning outcomes, how to assess skills and competencies gained through higher education, and the ways in which qualifications acquired in different settings can be recognised and designated are all important steps or stages in educating with a view to the labour market. Having the abilities of graduates addressed and identified can ease the transition of students into the labour market by signalling to students, parents, other institutions, employers, and national and international governments the competencies the students have acquired.

This three-part series addresses international policy trends that encourage entry into higher education, support the development of appropriate knowledge and skills within higher education, and are improving credible ways of signalling or credentialing the abilities of graduates.

2. Pathways for youth

Whether or not an individual participates in education beyond the secondary level is determined long before a student can make an application to a college or university or can apply for an apprenticeship within the skilled trades sector. The choices that parents and their children must make in elementary and secondary school lead along particular pathways. Some education systems focus on general education for all students while others devise streams of courses of study each leading to a different type of tertiary education, as Germany and Switzerland have done for many years. The UK has previously focused on providing generic education though recent policies are introducing a more defined system of aged 14-19 qualifications. An implication of a generic based educational system is that some students do not find success in the broader educational arena and may drop out. The UK, currently wrestling with this dilemma, has introduced policies to encourage re-entry into the 14-19 education system, particularly focused on vocational training.

2.1 Streaming

The comparison countries in this report employ streaming as a means to differentiate programming choices for youth at the elementary and secondary school level. Offering different routes to completion of education ensures students are capable to succeed in the type of education they are receiving and encourages completion. Streaming is a function of a system-led educational strategy, as it allows governments to maintain and monitor student pathways to aid the preparation of the HE sector and labour market. Some systems are highly centralised in programme development and government schools and industry are tightly linked to K-12 education. Nations such as Germany and Switzerland determine the programmatic needs of students and future labour forces at this stage. Other nations, such as the UK, have previously focused on broader educational skill and competency development and are now incorporating streaming into the system, particularly for apprenticeship and vocational training (Allan and DeWeert, 2007).

In Germany, the choice of stream is usually made around the age of 10 or 11 years old through the use of aptitude tests and parental involvement. The German system, like many EU countries, involves three distinct streams with particular outcomes: the lowest stream has traditionally been the avenue for apprenticeship training and trade skills; the middle stream has typically led to apprenticeship programs in business, management or commerce; and the highest stream has been reserved for highly qualified students with a small number being prepared for entry to university education.

In the Swiss system, compulsory schooling includes primary and secondary I levels, ends with the school-leaving exams, and is usually completed by age 16. Thereafter, successful students may enter Secondary II, pursuing one of four streams described as follows (Switzerland, 2009):

- In one stream, school-leavers enter a term of apprenticeship, which offers on-the-job training with experienced journeymen in one of the 300 recognized trades; in addition, they take relevant courses at a vocational school. Alternatively, they may pursue full-time education and training in a trade at a vocational school; on completion, they receive a diploma called the *advanced federal certificate*.
- Either during or after their term of apprenticeship, students can attend further courses to qualify for a *professional baccalaureate*. With this baccalaureate certificate, they can be admitted to the one of the universities of applied sciences without having to sit an entry exam or, by taking a supplementary examination, they may be admitted to study at a university.
- *Matura schools* (cantonal school, grammar school, lycée) provide students with a broad general education in seven basic subjects, a major subject and a minor. Matura schools are the usual route taken by those students who wish to go to university.

- *Specialised middle schools* teach both general and specific subjects such as those required for certain professions in health and social work, education, music, and the arts. Students can earn a *professional graduating certificate* in these fields after taking additional practical training or courses.

About 25 per cent of school-leavers at 16 do not proceed directly into the non-compulsory Secondary II streams; instead, they may take an extra school year, do pre-apprenticeship, or spend a gap year in one of the other language regions of Switzerland. Research shows that it is mainly young people from disadvantaged backgrounds and foreign migrants who choose this option — irrespective of their grades (Switzerland, 2009).

In the United Kingdom, the education system is increasingly being streamed. Schooling has been compulsory to the age of 16, but recent major changes will extend compulsory schooling to age 17 by 2013 and to age 18 in 2015 (or until students have achieved a level 3 education)¹ (Department for Children, Schools and Families, 2009). The redevelopment is meant to encourage greater participation by broadening the curriculum and offering options for students to remain engaged in education. Reforming the education system for 14- to 19-year-olds will be a 10-year process, but will allow students the following four options to earn qualifications within the new system:

- Apprenticeships — entitlement to a place by 2013 for all 16-year-olds suitably qualified
- Diplomas — an entitlement by 2013 for all 14- to 16-year-olds to the first 14 Diplomas and for 16- to 18-year-olds to all 17 Diplomas
- Foundation Learning Tier — an entitlement by 2010 to study one of the progression pathways
- General qualifications — i.e., General Certificate of Secondary Education (GCSE) courses and A levels (common high school degree appropriate for continuing on into higher education)

How and when streaming is introduced into the education system varies by country. Both the German and UK systems have streaming programs within compulsory education and at a younger age, while the Swiss system begins streaming after completion of compulsory education (Secondary Level I) and before higher education in Secondary Level II. The systems also differ in how the students may enter the streams. In Germany, students are given academic tests while still in the compulsory system; in

¹ Level three education is an advanced level of education, skills or training suitable for further education

Switzerland, the school-leaving exam after Secondary Level I determines the individual's opportunities; in the UK, students chose what stream they would like to enter.

2.2 Financial Incentives/Vouchers

In an elementary-secondary education system that is not tightly streamed (such as the previous UK system), the drawback is that students who do not find success in the broad curriculum may drop out. Despite the systemic rationale for this, financial constraints are often indicated as reasons for young people leaving education, particularly for those at risk to complete or remain in education and training. This finding led the UK to develop a strategy, the Education Maintenance Allowance (EMA), to support students aged 16 through 18 who have left or who are about to leave education with financial support of up to £30 a week (approx \$60 CDN) for education and training (EMA, 2009). However, an analysis of the EMA program suggests that it led to only a 1% increase in participation and had no impact on retention (EdComs, 2007).

However, because the allowance per week is lower than the amount a student could earn from full-time employment, it may not have offered enough of an incentive.

It is important that students have the opportunity to choose the education pathway to the labour market that is appropriate for them. One way of encouraging this is to provide streamed curricular programs that allow students to make choices early in their education, and to support their continued participation in education with financial incentives for those most at risk.

3. Pathways to college, vocational training, and apprenticeship

The provision of college level vocational training, skills development and apprenticeship programming is an important element of an educational system, particularly when examining the development of skills for the labour market. Such a pathway for those not interested in additional academic programs should provide hands-on training in practical skills through apprenticeships with experienced journeymen in the trades, plus additional knowledge provided through vocational training that ends with diplomas and professional accreditation papers. Encouraging and supporting participation in these programs are vital to increasing the number of skilled tradespeople and professionals within economies, as is the promotion of the programs as worthy and respectable life choices.

3.1 Vocational training

Vocational training and apprenticeship programs have been recognized as significant levers to integrate youth into the labour market with job security, high earnings, smoother transitions from school to work and a fulfilling and relevant learning environment. Recent strategies across the European Union, but particularly in Germany, promote vocational training as pivotal to the economic prosperity of the region, which are encouraging and strengthening collaboration with local governments and industries.

The German government's attention to the significance of vocational training is evident both in its financial allocations for subsidies and in its public promotion campaigns. The German vocational training system has a dual-system configuration, which provides two sites of vocational training — the firm (in the workplace) and the vocational school. Training within a firm or workplace encourages the development of a close connection between working and learning. More specifically, the apprenticeship experience enables students to balance their responsibilities and learning at work with team building and management skills. By matching this with related courses and training in vocational schools, the apprentice-students are able to reflect on their experiences and develop a refined understanding of their own strengths, weaknesses, and professional identity.

An important asset in the German vocational system is the complex relationship between different stakeholders. Considerable authority and power reside with the employers because they determine how many new trainees will be employed (if at all) and the occupations that will take trainees. Through its Federal Institute for Vocational Education and Training (acronym BIBB in German), the government deals with policy, research and practice in the field of vocational education and training (VET), oversees the training of apprentices, and specifies the duration of the training period, the description of the job and its related competencies or proficiencies, as well as the criteria for assessing performance. The interdependency of these stakeholders produces a very strong, comprehensive system for vocational training. However, the need for them to reach consensus on regulations and administrative goals makes the implementation of any change in either the content or the processes of the system difficult to achieve.

Vocational training in the UK has received considerable attention in the past decade. In 2001, the Learning and Skills Council (LSC) was created to work with schools, colleges, and other providers to improve both students' participation in training and skills development and their success rate in acquiring the qualifications that employers need and value (Department for Children, Schools and Families & Department for Innovation, Universities and Skills, 2008a). The most recent strategy has been to turn over to local areas the authority for the education and training of 14- to 19-year-olds. The 2008 strategy sets out the devolution of authority for the provision of training for youth and of funding from the national level to sub-regional bodies. This devolution is premised on the idea that local authorities are best able to determine what is needed to fill the gaps

between their own system and their local labour market. The local authorities, working together with regional partners, are expected to judge the demand for different forms of provision (apprenticeship, diplomas, Foundation Learning Tier). In particular, the local authorities work with local Further Education Colleges (which provide vocational training) and larger work-based training providers, to determine the apprenticeship places needed.

Placing the power of providing the training in local authorities allows the system to be more responsive to learner choice, and to become a more responsive, demand-led system. The local authorities are expected to set plans for their local systems and determine which areas to expand and which to reduce; to provide a plan to the national government for funding; and to be responsible for their performance through a common and transparent system. This UK system for the provision of vocational education is not yet set in stone. After a period of adjustment, it will be determined how well the new strategy is working and whether the model needs to be adjusted.

It is evident that involving business and industry is key to successful vocational training. Both Germany and the UK are focused on engaging the business community in the skills development of the future workforce. Germany's vocational system is managed at the national level which, as suggested, makes relationships and consensus-building difficult. In order to avoid such large-scale discussions and difficulties, the UK system has given control of vocational training to local authorities.

3.2 Apprenticeship

The apprenticeship system in Switzerland is a national system where training and qualifications are subjected to a national consensus on standards and external testing. Cantonal (regional) levels as well as the federal Office for Professional Education and Training (OPET) (Switzerland 2009b) and affiliated professional associations are all involved in the regulation of vocational training. The structure and content of college programs, the number of hours for each program, the programs that require exams and other methods of assessment are prescribed by the OPET. Although examinations are set at the cantonal level, the parameters of success and achievement are based on agreements between professional associations and the OPET. The federal involvement in this training brings considerable credibility and prominence to vocational careers throughout Switzerland. The apprenticeship model is the dominant pathway for students who want to enter into a college program because a student's eligibility to enter college is confirmed only by a signed contract with an employer.

Apprenticeships are a relatively new focus of the UK. Having nearly trebled enrolment since 1996/1997, in 2008 the government planned to open the programme to all qualified applicants and are aiming for 1 in 5 young people to start apprenticeships in the next 10 years. . The goals are not only to expand the system but also to increase the reputation of apprenticeships, and to have the programming and qualifications recognised as a

“mainstream route for young people” (Department for Children, Schools and Families & Department for Innovation, Universities and Skills, 2008b). The National Apprenticeship Service (NAS) was developed in order to encourage participation in the apprenticeship program and to have end-to-end accountability (Apprenticeship, 2009). The NAS has been given £11 million GBP (approximately \$20 million CAD) to create 3,000 new apprentices (Department for Business, Innovation and Skills, May 13, 2009). Students completing their apprenticeship are issued a National Completion Certificate by the Sector Skills Council, which clearly identifies the training and competencies of the individual (Department for Children, Schools and Families & Department for Innovation, Universities and Skills, 2007).

3.3 Integration with local industries and the community for assessing skill needs in further education

Engaging the local community is a prevalent method of ensuring the skills and competencies being taught are of value to local industries and employers. In order to develop relationships with providers and employers, governments increasingly emphasize engaging employers in the training of youth. Some nations have strategies at the federal level while others are decentralising their powers to allow for local responses to local needs.

In the German context, tax and employment policies have been developed to encourage the cooperation of business and industry with higher education. For instance, government subsidies granted to businesses and trades for training apprentices are very high so that businesses do not become susceptible to poaching wars. Also, businesses can directly influence the type and number of apprenticeships offered through targeted efforts with governments and other stakeholders, an involvement that usually requires monetary investment. Involvement also comes through strategic partnerships of stakeholders who recognise the need for specific, transferable skill sets and can emphasize that need to those who plan and deliver the training. Both strategies bolster the demand for well-trained apprentices and contribute to the sustainability of these programs because they are effective for youth entering the labour market and as a driver of economic prosperity.

Switzerland is an example of a country where businesses are highly committed to apprenticeship but on the condition that costs are not allowed to exceed the return from the productive contribution of the apprentices. The wages to apprentices are kept relatively low and off-the-job training is restricted so that firms can recoup their costs during the training period. The government also subsidises apprenticeship places for hard-to-place young people.

In the United Kingdom, the strategy for developing skills and competencies needed for the modern dynamic economy is based on employer and industry relationships. By transferring power to the local authorities for the education of 14- to 19-year-olds,

thereby allowing local powers to determine further education (college-level) program needs and to assess the appropriate numbers of apprenticeship places, the national government is ensuring tight linkages between education and the labour market. Because each local community and region has distinct populations, industries, and labour markets, government's transferring power to them means they can train workers in appropriate skills matched to the specific needs of the local economy. It also allows for demand-led programming which improves participation as it provides courses of interest to students.

4. Pathways to Higher Education

There are three areas which governments are focussing their attention within higher education in efforts to ensure people are in the right educational setting and in the right programmes: access, system design, and relations with the labour market. Activities of outreach and access programmes support student in making decisions about their educational path. Given appropriate and responsible guidance in the decision making stage is a key component to student success. At the system level, recent modifications have shown Switzerland and Germany developing an increasingly stratified higher education system with small numbers of prestigious research intensive institutions. It creates a model of streaming within the university system. Finally, governments are seeking to improve institutional partnerships within the higher education system, as well as partnerships with local industries and community for assessing skill needs.

4.1 Outreach and access programs

Ensuring students have the right information to make educational choice is a key element of ensuring successful participation. Each of the three nations discussed to this point provides information and support to young students in order to aid their decision making. The Swiss system is committed to providing students with substantial information about possible vocations prior to selecting their pathway through vocational training. The information provided comes from a coordinated effort between employers, teachers, students, and career guidance centres, a collaboration that is cited as a reason for the success of Swiss employment strategies. The multi-faceted, integrative processes are pivotal in ensuring that students have confidence in their decision to pursue further education.

The different stakeholders also play a substantial role in providing considerable information about the possible apprenticeship careers of students in Switzerland. Teachers invite speakers from industry into the classroom and encourage students to attend workshops or seminars at career guidance centres. The component of work-experience in the Swiss apprenticeship model includes site visits and informal mentoring mechanisms where students receive information about work realities and expectations from current employees who are often only a few years older than the students.

By aiming for a 90 per cent rate of participation in education by 17-year-olds by the year 2015, the UK is focused on providing information to students to encourage appropriate educational pathways through the elementary-secondary system. Outside of the classroom, the government's strategy includes methods of engaging students in thinking about their future careers. It is extremely important that they have an experience of what college-based or work-based options are available to them. Work experience, visits to colleges, visits from representatives of business and industry at career days, or enterprise education days offer students ways to develop "contracted images" from their own experiences, rather than basing decisions on "derived images" that come from media or "delegated images" that are passed to a young person by an adult (Foskett & Hemsley-Brown, 2001). Research suggests that having an internship or work experience in a field was the "single most important intervening process organised by schools in the choice processes of the majority of pupils across all schools" (EdComs, 2007).

The UK government website Connexions Direct operates outside the school system to supply advice to youth on all aspects of life, including learning and careers (Connexions Direct, 2009). The services it provides are thought to be the second most influential career guidance service, particularly for at-risk students (EdComs, 2007). Specifically, having face-to-face interaction with Connexions counsellors was important, but the website itself was well used as a database for information and for putting students in contact with the service. Within the counselling services offered through this website, the *advice* and *guidance* offered were much more valuable than the *information*.

Providing students with information and guidance on HE options is a significant initiative in all nations reviewed. Inside the education systems and in collaboration with employers in business and industry as a system-wide initiative, each of the countries wants to provide students with a clear understanding of the options offered for education and employment.

4.2 System Stratification

Getting students to make the right decisions for their own futures is important to ensure that they will be successful in their career goals. However, the HE system must be able to bear the weight of the demands and continue to provide quality education. The question of quality versus quantity is an issue with which many governments are now grappling (LEONIE, 2005). One approach toward addressing this delicate balance is to create a stratified system with institutions that focus on a specific field of study. Another approach is to develop a system in which institutions have distinct roles, such as a research institution or a teaching institution focused primarily on undergraduates. Such a differentiation of institutions and stratification of the postsecondary system can be compared to streaming within elementary-secondary education, where certain institutes and certain programs are better aligned with designated outcomes.

In Switzerland, policy directives that emphasise Higher Education and R&D include restructuring institutional mandates and relationships by re-arranging the higher education landscape to focus on a handful of specific universities, usually the large, research-intensive ones, to spearhead research activities in particular areas of interest. Here, the kind of educational streaming from early in a student's career is repeated where this re-arrangement of higher education institutes to focus on particular activities results in students being able to choose specific institutions for specific training and career possibilities. This strategy has implications for student mobility, access, and transfer possibilities, especially as more foreign students enter into Swiss higher education institutions.

The German system is also becoming more stratified through the Excellence Initiative which the government began in 2006, when it determined that three institutions would be treated as elite universities in an effort to increase their research capacities and their international prestige (*Science*, 2006). The institutions (Ludwig-Maximilian University, Munich's Technical University, and the University of Karlsruhe) were to be granted approximately \$150 million USD between 2007 and 2011 to develop high-level research with the goal of being included within the top 50 international university rankings. The Excellence Initiative also earmarked funding for 22 promising graduate programs and research clusters in particular fields throughout the country. One concern with this stratification is that the grant recipients tend to be in the wealthier regions of the country, which makes other regions fear that they will end up as 'bigger losers'. Without funding, they will not have the opportunity to develop their capacities, nor are they geographically part of the research clusters that might support innovation.

Other governments are also working toward restructuring their HE systems. New Zealand, for example, is shifting their university system to enhance "differentiation and complementarity" among universities (New Zealand, 2007). Similarly, Scotland is trying to develop clusters of institutions that focus on learning and teaching enhancement in particular disciplines and in particular support areas (Scotland, 2009).

Increased stratification and differentiation in institutions also demands clear pathways to and within the system and requires cooperation and coordination that support student mobility. The OECD (2007: 161) suggests that regional collaboration through clustering can support the specialisation of some institutions while ensuring adequate provision of all programs. It also supports the development of multiple pathways, supporting coordinated transfer routes and accreditation.

4.3 Integration with local industries and communities for assessing skill needs in universities

The UK (also new to streaming in elementary-secondary) has not created explicit policies to develop a stratified system, but is developing strategies that involve employers in the development of university programming for students. General reviews

of relationships between university providers and employers in business and industry in the UK suggest that there is a gap between employer needs and HE responsiveness (House of Commons: Innovation, Universities, Science and Skills Committee, 2008). For example, employer engagement in science, technology, engineering, and mathematics (STEM) is a particular topic of discussion in the UK. With a relatively high unemployment rate for STEM graduates², employers suggest that the mismatch of employability is “attributable to quality of shortcomings rather than any overall shortfall in quantity” (Roberts, 2002: 29). There is a demand for increased involvement of employers in the development of curriculum. Working to address the needs of employers in June 2009, the UK created from its HE system the Department for Business, Innovation and Skills (BIS) whose role is to analyze the strengths and needs of industry, support and increase the strengths of universities and their science capabilities, and shape policies related to skills and innovation (Department for Business, Innovation and Skills, June 5, 2009).

Another way to engage university students and recent graduates in the labour market is through internships. The UK recently developed the Graduate Talent Pool, which helps recent graduates obtain workplace experience through internships, volunteering, or one of a variety of other means in order to increase the employability of recent graduates (Department for Business, Innovation and Skills, 2009). The initiative is intended to support “5,000 internships, building on the 2,000 already achieved” by encouraging public and private employers to register with them and by assisting jobseekers financially for 13 weeks of an unpaid internship (Department for Business, Innovation and Skills, April 28, 2009).

Universities have not had a long history of interaction with employers on the education of students; in contrast, colleges and other institutions have enjoyed a history of collaboration with businesses and industry in training students in the skill-specific sectors of the labour market — a major role integral to their design. Universities have previously had greater autonomy from the non-academic sectors of the labour market, yet the practical skills and competencies of university graduates have become more important to the broad ranks of the labour market, and to the success of students themselves. In the UK, the strategies for engaging industry and employers in designing and supporting the curriculum and in employing recent graduates are designed to increase the interactions of universities with labour markets and their responsiveness to one another. To engage employers in developing the skills of their employees through university programs, the Higher Education Funding Council for England (HEFCE) has funded a program that supports employer choice programs. Industry and employers work with institutions to develop programs to meet the needs of their specific industry. Programs within the strategy are expected to enrol 20,000 students in 34 institutions. It is

² This issue is further discussed in the second paper in this series ‘A Fine Balance: Supporting Skills and Competency Development’.

expected that, in coming years, the HEFCE contributions will cease and employer contributions will fully subsidise the programming.

Germany, Switzerland, and the UK are actively developing strategies to support pathways to and through university to ensure successful labour market outcomes and, ultimately, a successful participant in the KBE. They encourage students to choose an appropriate HE option that supports their successful completion and labour market outcomes. Germany and Switzerland, among others, are actively modifying their HE system design in order to balance issues of quality and quantity. This system-led method of determining access to certain programs and institutions is similar to the K–12 system of streaming. The UK (also new to K–12 streaming) has been developing policies and strategies that enhance the relationships between and among governments, business and industry, and universities. The incorporation of industry and labour market needs suggests that the focus is on allowing market forces to help shape the design of the HE system.

5. Pathways to lifelong learning and skills training

Adult education and skills training is a key focus of all three case studies of government strategies. Ensuring adults have basic skills and transferable competencies assists them to remain successful or regain success in the labour market. In light of the recent economic downturn, the re-skilling of the population is vital for economic security.

5.1 Outreach and access programs

The UK aims to increase adult skills attainment by increasing investment, encouraging employer engagement, increasing awareness of the value of skills, and creating an integrated employment and skills service (Leitch, 2006). The government is also developing a Skills Funding Agency to operate in 2010 that will focus on funding these initiatives (Department for Children, Schools and Families & Department for Innovation, Universities and Skills, 2008a). The planning and outreach activities for encouraging adult participation in Vocational Education and Training (VET) is not included in the plan, but remains integrated into existing employment services operating at the local level through Employment and Skills Boards. Similar to the Connexions Direct strategy for youth, the UK has an Information, Advice and Guidance framework for adults that offers support through the Internet, by phone, and in-person appointments to advise adults on career and educational opportunities.

A major initiative coming out of the 2006 UK government report entitled *Prosperity for all in the global economy* was to implement the concept of the Adult Learner Account (ALA)

(Leitch, 2006). The ALA offers a “virtual voucher” of state funding to adults, an entitlement to purchase relevant learning at an accredited, quality-assured provider of their choice to help learners over the age of 19 gain full Level 3 qualifications, including National Vocational Qualifications. They also give individuals access to a range of other services through the adult advancement and careers service, and an online record on which to store their qualifications and achievements. The Adult Learner Accounts encourage a demand-led system because the program allows student choice and gives students purchasing power. The first pilots began in September 2008, allowing learners in the Southeast and East Midlands to open accounts at selected colleges. The Government expects that by 2010–11, adult learners with ALA’s will be able to access £500 million of adult funding (approximately \$1 billion CDN), increasing to around £1.5 billion (approximately \$3 billion CDN) by 2015, when the Accounts will become a key mechanism via which all adults access learning (House of Commons: Innovation, Universities, Science and Skills Committee, 2008).

To encourage adult participation in education, the Swiss Government recently employed a field experiment to assess the usefulness of vouchers (Wolter & Messer, 2009). Aiming to have the education vouchers support a demand-led system, the government provided transferable educational credits to 2,437 randomly chosen adults. Participants were able to apply the credits to any educational programme they chose, and research was conducted on if the credits were used, how they were used, and if education continued the following year. Counselling services were also provided to some groups within the sample. Overall, the study concluded that the vouchers did have the effect of increasing participation among some under-represented groups and was more influential than just providing advice.

The Australian government has also developed a voucher system to increase participation in skills training, specifically for the basic secondary qualification (equivalent to completing grade 12 in Ontario). There is a call to make the vouchers available for Certificate III training to ensure that the level of skills gained through the program is adequate to help supply the labour market. Despite the fact that it is being used, the Australian government has concerns that the voucher system is a blunt instrument that encourages participation, but does not ensure quality provision.

The German government has developed a Continuing Education Grant. Small grants are offered to individuals to encourage personal investment in general and vocational education and training. The state-funded continuing education bonus is proposed as the central instrument for financing continued training. The maximum bonus is €154 (approximately \$250 CDN). It is granted to anyone who contributes the same amount from their own funds. Including the minimum amount of €30 (approximately \$50 CDN), the budget for continuing education is thus €330 (approximately \$550 CDN). The incentive is that almost half of all costs are covered by the state in the form of the continuing education bonus. The bonus is particularly attractive for those who cannot deduct taxes for continuing training because their taxable income is too low or because

their education expenditure is below the blanket deductions. Those who finance their continuing training measures from their current income or existing assets have been able to claim the costs under their individual income tax return for quite a while. The system is also supplying educational counselling services (Germany, Federal Ministry of Education and Research, website).

5.2 Employer-education training strategies

Encouraging industry and employers to support the continuing education of their employees is an effective method of adult education and skills upgrading. Train to Gain is a 2006 national initiative of the UK government designed to encourage employers to support the re-skilling of their employees. Operated by Sector Skills Agencies, the Train to Gain strategy supports all employers, both large and small, in identifying the skill needs of their employees, helps to identify and source training solutions, financially support employee training, and support apprenticeships (Learning and Skills Council, 2007). Level 2 education is fully subsidised by the government, and partial subsidies are available for level 3, apprenticeships, leadership, and management and higher education (when relevant and funding is available). The regional Sector Skills Agencies work with local industries and employers to determine what skills are needed both by employers and in the region. Employer satisfaction rates with the services are over 80%, and employee satisfaction rates are 77% with the training they have received (Learning and Skills Council, 2007).

Germany is currently running a program, called Jobstarter, which supports projects that are of benefit to the local economy and funds vocational training through traineeships for the projects. Regional offices of vocational education and training are working with local stakeholders to encourage companies to apply for funding. The projects must indicate an analysis of their placement in the sector and potential training opportunities, how they will support training, how it will support cooperation between school and industry, and how it is innovating vocational training (Germany, Federal Ministry of Education and Research, website). Unfortunately, little information on this strategy is available in English.

Similarly in Canada, New Brunswick has recently piloted an employer-specific training approach named TIES 2 Work (Wright & Makhoul, May 2009). With a number of large energy projects in development, the region of Saint John will require 8,000 new workers for the projects. The TIES 2 Work project aims to develop training in essential skills specifically to meet employer requirements. The New Brunswick Department of Post-Secondary Education, Training and Labour is funding the project and is engaging with business, provincial government departments, educational institutions and community agencies to ensure the skills curriculum will develop a the optimal candidate-employer match. By supporting the local citizens in developing the skills and competencies required by new and significant employers, the government is increasing the likelihood of success for both the individuals and the energy projects.

The two main strategies of the UK government for re-skilling adults are dependent on the support of local employers and industries. The development of the Skills Funding Agency relies on the local governments to be in contact with their constituents to determine what sort of training and skills are appropriate for their locale. Similarly the Adult Learner Accounts are transferable vouchers for basic and vocational education training. Vouchers are also being employed in a number of nations as a means of encouraging re-entry of adults and upgrading of their skills.

Allowing for this demand-led system puts pressure on the providers to ensure that the programming they offer is suitable for the environment, thus enhancing relationships between educational providers and industry employers. The UK's Train to Gain strategy is the cornerstone of the UK strategy to engage employers and industry in the education and development of the skilled work force, by financially enhancing employers' ability to support adult education and learning to meet both general and specific skill needs.

6. Conclusion

There are many similarities in the UK, German, and Swiss approaches to optimising the labour market through education and training initiatives. These national strategies balancing student choice and provider responsiveness are central to ensure the skills and competencies supplied through PSE are valuable in the labour market, and that students are making choices that will support their success.

Educational streaming early in students' careers seems to be the cornerstone of success for these countries. Vocational and apprenticeship training feature highly in all strategies designed to develop a skilled population. A primary goal of each country is to engage employers in business and industry in discussions with providers and governments to ensure that the skills developed suit the local market needs. By encouraging partnerships with vocational training, apprenticeships, and the development of programs, these countries expect to match abilities to the needs of the local labour market.

Strategies for developing pathways into universities suggest that providing information and support to students is particularly important. Successful examples include mechanisms for offering substantial information and advice to ensure that students are aware of the multiplicity of choices. Developing a stratified system of elite universities supports institutional differentiation and supports coverage of all subject areas within regions. The relationship between universities, business and industry is being developed to increase the interaction between local labour markets and institutions in programme development and increased internships.

Lifelong learning is a key aspect of the development of a strong knowledge-based economy in these three nations. All are employing or exploring the use of financial

incentives to encourage adults to return to education. Furthermore, engaging the support of industry and employers for upgrading employee skills is a primary focus of the UK government.

To conclude, each of these nations is investing in education for the knowledge-based economy in similar ways. They are supporting diverse pathways through the levels of educational rather than focussing on university education alone. They are encouraging the participation of employers in business and industry in determining appropriate skill needs within educational settings, and are engaging with industry and employers to support lifelong learning. The goal of these strategies is to develop a workforce that is equipped with the skills, competencies and knowledge needed for success in the labour market of the knowledge based economy.

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