



Vocational Education and Training: Issues for a Thematic Review

W. Norton Grubb

ACKNOWLEDGEMENTS

I have relied heavily on the valuable research assistance of Brian Folk. The analytic framework of this issues paper is taken from Grubb and Lazerson (2004), which I have also adapted for England (Grubb, 2004). I have relied on a number of reviews of countries including the Eurydice system compiled by the European Union, the country reviews of VET systems compiled by CEDEFOP, VETNET (the European Research Network on Vocational Education and Training), information posted on the European Training Village, AVETRA (the Australian Vocational Education and Training Research Association) and NCVER (the National Centre for Vocational Education Research) for Australia, and KRIVET for Korea. In addition, I have benefited from comments and references from Roland Amann, Damon Anderson, Bill Bailey, Gerald Burke, Phillip Gonon, Marvin Lazerson, Beatriz Pont, David Raffe, Cathy Stasz, Richard Sweet, Lorna Unwin, and Michael Young. Finally, I have drawn on the country reviews for which I have been rapporteur in Canada (adult education), Austria (adult education), Finland (equity), and Korea (higher education).

W. Norton Grubb

David Gardner Chair in Higher Education

University of California

Berkeley, CA U.S.A.

TABLE OF CONTENTS

1. INTRODUCTION: THE MULTIPLE INTERESTS IN VET	1
2. THE ROLES OF VET IN EDUCATION SYSTEMS	4
2.1 Participation rates in VET.....	4
2.2 Movements among levels and linkages with other institutions	4
2.3 The structure of institutions: Specialisation, comprehensiveness and consolidation.....	5
2.4 School-based versus work-based learning	6
2.5 The special issues in job training versus vocational education.....	7
2.6 Models and scenarios for VET.....	8
3. THE LEVELS OF VET SYSTEMS.....	10
3.1 Postsecondary VET in technical institutes and colleges	10
3.2 The VET/University boundary	11
3.3 Levels of the labour force and levels of VET	12
4. THE FINANCING OF VET	14
4.1 Sources of direct funding: Individuals, governments, and employers	14
4.2 Hidden costs: Tax expenditures and subsidies from welfare states	15
4.3 Loan finance	16
4.4 Funding equipment, supplies and work placements: The higher costs of VET	16
4.5 Incentive-based or output-related funding (ORF).....	17
4.6 Voucher mechanisms for funding.....	18
5. CURRICULAR AND PEDAGOGICAL ISSUES	20
5.1 Shaping the curriculum and defining skills.....	20
5.2 The general education component of VET	21
5.3 The special pedagogical issues of VET	22
6. QUALITY ASSURANCE MECHANISMS	24
7. ARTICULATION WITH LABOUR MARKETS	26
7.1 Information to students: Career-oriented vocational information and guidance.....	26
7.2 Mechanisms of direct co-operation.....	27
7.3 Credentials and qualifications.....	28
7.4 Flexibility and the market responsiveness of VET	30
7.5 The equilibrium of demand and supply: Skill shortages and over-education.....	31
8. LABOUR MARKET OUTCOMES.....	33
8.1 The transition from school/VET to work.....	33
8.2 The individual employment benefits of VET	33
8.3 The macroeconomic benefits of VET: Education and economic growth	35
8.4 Globalisation and VET	36
9. CURRENT CONCERNS AND THE FUTURE OF VET	37
10.METHODOLOGICAL IMPLICATIONS FOR A THEMATIC REVIEW AND COUNTRY STUDIES.....	39
REFERENCES	40

1. INTRODUCTION: THE MULTIPLE INTERESTS IN VET

In many countries, the issues surrounding vocational education and training (VET) are being discussed again — again because VET is a subject within education that seems perpetually to be under debate.¹ The area of VET was considered the top priority (by a substantial margin) by the Education Committee of OECD; many countries have their own reviews underway, and the European Union has carried out a great deal of research on the subject as part of its effort to unify Europe. It may therefore be time for OECD to carry out an analytic review of VET, analysing current patterns and potential reforms in a number of countries.

However, countries' interests in VET are quite different. Among the most important are the following:

- The countries with dual (school-based and work-based) VET systems, like Denmark, Germany, and Austria, are concerned with the declining apprenticeship places available.
- Some countries, like Australia with an apparent shortage of workers in the skilled (metalworking and electrical) trades, Portugal and Spain with shortages of intermediate skill levels, and Austria with an aging labour force, are concerned with shortages of certain kinds of workers.
- Many countries are concerned with the kinds of skills that students master in their VET systems, including the academic or general competencies. They therefore want to upgrade the quality of VET to offer the skills that they perceive are necessary for employers and for competitiveness.
- Some countries are concerned about regional imbalances, like Germany and its efforts to develop the regions of the former East Germany, or Korea with its concern that areas outside Seoul become more developed. They have sometimes used education policies to serve the interests of regional development.
- Some countries are concerned that VET continues to be of low status, and therefore only those students without alternative opportunities — most likely to be lower-income, racial minority, or immigrant students — enrol in VET, creating a second-class system.
- Some countries, like England, the U.S., and Denmark, are worried about secondary school completion rates, and hope that new approaches to VET can encourage “reluctant learners” to stay in school.

¹ Four examples must suffice. In the U.S., Cuban (1990) has pointed out that cycles of reform keep repeating themselves, and I (Grubb, 1978) have similarly argued that ideas associated with vocational education keep on reappearing and disappearing. In countries with a dual system, there seems to be a “crisis” every decade. Both England and Australia seem to be always in the midst of reforming their VET systems, failing to allow one set of reforms to become established before creating new ones. Arguably, then, VET is more subject to cycles in reform than is general education.

- Many countries, England and the U.S. among them, are concerned with problems of social exclusion or (in the U.S.) “disconnected youth” or (in Denmark and other countries) immigrant youth, groups of individuals who are outside the mainstream of employment and other social institutions, and they hope the VET can re-integrate such groups into the mainstream.
- Many countries are concerned with the role of education in general, and of VET in particular, in enhancing growth and competitiveness, facilitating their transition to the Knowledge Economy, and helping them keep up with globalisation. These interests often appear in rhetoric about the need to reform education, in government reports and white papers. I have sometimes labelled this view the “Education Gospel” — following Kwon’s (2001) contention that “the idea of a knowledge-based economy is enthusiastically treated like a gospel among Korean people” — because it is often an article of faith, rather than resting on empirical evidence (Grubb and Lazerson, 2004).
- The implications of globalisation for both general education and VET continue to be topics of intense discussions, often as part of promotion of the Knowledge Economy. But again, the effects of globalisation — often quite imprecise — vary among countries. Countries with the EU are being pressured to adopt common structures of general education and VET, in the Bologna and the Copenhagen processes respectively. Some countries are adjusting to the decline of manufacturing, and the ascendance of free-market practices and liberalisation is probably a factor in the decline of apprenticeship offerings in countries like Germany. So globalisation may indeed be a general influence, but its influence needs to be ascertained in each country.

These and other reasons mean that interest in VET is far from uniform. Countries trying to increase the supply of apprenticeships are searching for much different solutions than are those trying to restore the status of VET, and addressing specific skill shortages is quite different from efforts to incorporate various “key” or “core” or “higher-order” skills. The first task in the country studies necessary for a thematic review, therefore, is to determine what priorities different countries have for the VET systems, which problems are dominating their concerns, and what solutions are being considered. It’s quite possible that there are patterns among OECD countries in these concerns, something I raise in Section 2.6 on “models and scenarios for VET”, but these can emerge only after a number of country studies are completed, and only if the different goals of countries are examined.

There is by now a great quantity of information about existing VET systems — some of it published by country-specific organisations devoted to VET (*e.g.* KRIVET in Korea, NCVER in Australia), some of it published by international organisations devoted to VET (like CEDEFOP for the EU, the Eurydice data base maintained by the EU, Unesco and Unevoc data), and some of it produced by academic researchers. There’s little purpose in OECD trying to replicate these descriptions of different countries’ practices, though certainly such information should be included in the Background Reports that each country participating in a thematic review writes.

However, there are several problems with the existing information about VET that could be remedied by a thematic review. One, of course, is that the country-specific studies rarely take a truly comparative perspective, comparing practices across countries and judging experiences in one country against those in others. Second, the existing reports are largely descriptive and not particularly analytic; that is, they generally fail to examine deeper issues about the effectiveness, efficiency, equity, and underlying logic of different practices.

A third problem is that most studies fail to ask about the theories of action underlying different countries’ practices. Ideas about theories of action were first articulated by Argyris in the U.S. (*e.g.*, Argyris and Schön, 1974). A simple version of a theory of action is the set of causal statements linking an

action (a government VET policy, for example) to a desired goal (like eliminating a skill shortage); if a theory of action is based on faulty logic, or simply missing, then there's a good chance that the action will fail to resolve the underlying problem. A more complex version recognises that many people have *theories in use*, the often-implicit conceptions that guide policy-makers, educators, and others in their daily lives, and *espoused theories*, the theories that they might use to explain their actions to others, and which are (presumably) more carefully-considered, or better-justified, than are theories in use. Argyris and Schön have hypothesised that theories in use are what govern day-to-day activities, even though people may be able to articulate a different espoused theory. Whether the two kinds of theories of action are consistent with one another is a difficult and empirical issue; and if theories in use are flawed, then policies are likely to be ineffective.

One goal of an OECD thematic review might therefore be to uncover the various theories of action governing VET policies. For example, as I point out in Section 7.3, many countries continue to elaborate their qualifications, and the idea of a qualifications framework has gained some attention; but the theories of action underling qualifications are rarely articulated, and the theories-in-use often rest on incorrect assumptions. Similarly, common statements about the role of education and VET in promoting economic growth and competitiveness reflect a widespread theory-in-use, but that does not necessarily match a well-considered espoused theory.

Therefore three goals of a thematic review of VET policies might be first to carry out a truly comparative examination of practices, looking at the range of specific country practices in any particular subject; second to raise more analytic questions about VET practices; and third to ask what theories of action govern different practices.

It's common in examining VET to distinguish among initial preparation for the labour market, among younger individuals who have no extensive labour market experience; upgrade training, for employed individuals who need to increase the skills needed in their current employment; retraining, for individuals who want to shift occupations, or have been forced by economic changes to leave declining sectors; and remedial training, for the long-term unemployed or welfare recipients whose attachment to the labour market is weak. Lifelong learning usually includes upgrade training and retraining, as well as other forms of adult education not considered in this paper. In this paper I am concerned predominantly with initial preparation, though issues in remedial and upgrade training arise in trying to distinguish vocational education from the training component of VET, in Section 2.6. In some countries it is relatively easy to make these distinctions because certain institutions are attended only by students seeking initial training; for example, virtually all the students in *Fachhochschule* in German-speaking countries are relatively young, and older individuals seeking upgrade training or retraining are in different adult institutions. In other cases, however, the distinction among initial preparation, upgrade training, and retraining are difficult to make; in the comprehensive community colleges of the U.S. and Canada, for example, all three kinds of students show up in the same institution, and often in the same classes, so distinguishing the magnitude of initial preparation is difficult.

In this paper I outline a number of issues that arise in considering different countries' systems of VET, some of them (like the financing of VET) relatively familiar and included in every analysis but others of which (like the different levels of VET examined in Section 3, or the pedagogical issues in Section 5.3) relatively unfamiliar. I draw on the large body of international evidence for examples of different practices and concerns, but I have made no effort to be comprehensive; that is the task of Background Reports and Country Notes. I conclude this issues paper with some implications for the methodology of a thematic review and country studies, since some of the information required by the analytic issues I raise must be collected in ways that differ from the common practices of country studies.

2. THE ROLES OF VET IN EDUCATION SYSTEMS

2.1 Participation rates in VET

Countries vary substantially in the relative magnitude of VET, and in how VET is organised and delivered, and a basic descriptive task is to understand this structure. Often, education systems are described with diagrams giving the types of institutions and qualifications that students attend at different ages or stages (*e.g.*, the diagrams in the Eurybase system), and these are valuable in presenting the structure of education, and of VET's role within it, in a single glance. However, the typical diagrams often fail to include the number of students enrolled in different stages, so that it is impossible to know whether certain institutions are relatively "large" or "small". A further complication in some countries — in community colleges in the U.S., for example, or TAFE colleges in Australia, or short-term job training in virtually all countries — is that many students attend part-time, so that enrolments (rather than full-time equivalent students) fail to capture the real magnitude of VET offerings. Ideally, then participation rates in VET compared to general education should be collected for both enrolments and full-time equivalents, to understand how intensive attendance in various VET institutions is.

2.2 Movements among levels and linkages with other institutions

In most diagrams of country education systems, the arrows denoting possible paths among institutions — for example, from general upper secondary schools to universities, or from vocational upper secondary schools to universities or postsecondary VET — are usually missing information on the probabilities of such mobility. Without such information it is impossible to know whether a *potential* path is in fact *realistic* or *likely*. The initial descriptive task of a thematic review might therefore concentrate on understanding not only the institutions in a country VET system, but also the sizes of these institutions and the flows among them. This of course requires longitudinal data, which some countries lack.

The flows among institutions are in turn often related to status issues: If participation in a level of VET precludes moving upward in the hierarchy of institutions, then many students — and certainly those with greater ambitions, who are also more likely to be middle-class students — are unlikely to enrol in that kind of VET. As a result, many countries have tried to make it possible to move upward from VET institutions. For example, France has established the bac pro (*baccalaureate professionnel*) to enable students from upper secondary VET programs to enter the university, and Finland has allowed movement from secondary vocational education to the university; in the U.S. and Canada, constant efforts to increase transfer rates from community colleges to universities are in part designed to make sure that vocational education in community colleges is not seen as a "terminal" program, one without possibilities for upward mobility.

Again, it is crucial to understand the relative magnitude of these flows to determine whether these reforms have been successful; for example, it has become clear that the bac pro may lead to *Sections de Technicien Supérieures* (STSs) but rarely to IUTs or universities. But in addition to the numbers indicating the probabilities of transition, the mechanisms facilitating transition are useful to know, partly because they might suggest practices that other countries might use. For example, the practice of organising *Institutes Universitaires de Technologie* (IUTs) in France within universities apparently facilitates the movement from IUTs to universities, since it is not necessary for students to move from one institution to another.

However, there are many more relationships among institutions than the movement from VET programs into general or academic programs — though these may be the most important for the status of VET. In addition, VET programs may have connections with adult education, and with short-term job training programs. Indeed, one approach to remedial VET would be to allow or encourage individuals to enrol first in short-term job training, and then move into longer VET programs as their lives permitted; this has been tried in a few community colleges in the U.S., for example. This kind of movement might overcome one of the inherent limits of short-term job training — that it is not intensive enough to provide the skills necessary for well-paid employment (see Section 2.6).

Similarly, adult education institutions often enrol individuals seeking to move into better employment, and connections between adult education and VET programs might facilitate this kind of movement. For example, in San Francisco and San Diego (but not in most U.S. communities), the non-credit or adult divisions of community colleges have developed transition programs to encourage adult education students to move into community colleges. On the contrary, almost students in community-based adult programs in Canada — structured to deal with the most serious problems of illiteracy — never move into their education system, and more generally the linkages between adult education in most countries are weak (OECD, 2003). One way for countries to avoid having institutions that are “terminal” or “dead-end” is therefore to facilitate movement among institutions, and this could involve linkages both into VET programs and linkages from VET to higher levels of schooling.

2.3 The structure of institutions: Specialisation, comprehensiveness and consolidation

Countries vary substantially in whether they provide VET in specialised institutions devoted only to VET — like the *Fachhochschule*, the IUTs and BTSs in France, the polytechnics in Finland, TAFE colleges in Australia, technical institutes in Canada and some of the American states — or whether they offer VET within comprehensive institutions — the Further Education colleges in the U.K., state colleges in Norway, community colleges in the U.S. and Canada. An open question is what difference this makes. One argument is that specialised institutions are more likely to allow the development of high-quality VET, whereas VET in comprehensive institutions is more likely to have lower status, funding, and institutional visibility. Specialised programs also facilitate the transparency of a VET system, whereas burying VET within comprehensive institutions may make these efforts less well-understood — as is the case in the U.S., for example, where the dominance of community colleges in providing vocational education is not well-understood.

On the contrary, however, specialised institutions may make it more difficult for students to change fields of study if their initial choice proves unsatisfactory, particularly if they want to move from vocational to general education. In the U.S., specialised institutions have always been viewed as less equitable than comprehensive institutions since they might trap certain students in vocational pathways from which they cannot escape. More generally, the flexibility allowed to *students* — whether they can easily change subjects if they change their minds — is a feature of VET systems that should be examined. Some countries (like those with *Fachhochschulen* and dual systems) allow almost no flexibility. At the other extreme, students in the U.S. are able to move among programs and institutions with great ease, facilitated by common course numbering systems and the interchangeability of credits; the phenomenon known as “swirling” — or accumulating random credits from different programs and institutions — makes it difficult to impose coherence on either vocational or general programs.

In addition, specialisation might make it more difficult to incorporate into VET programs the academic or general subjects included within comprehensive institutions. For example, the TAFE colleges in Australia appear to provide vocational training only, and students whose general skills are weak must enrol elsewhere. In contrast, the comprehensive colleges in Canada and the U.S. allow students to take related general subjects, in conventional general education coursework, in specialised remedial courses in

reading, writing, or math, and sometimes in integrated academic-vocational hybrid courses like Business English or Math for Nursing.

One process visible in many countries and affecting specialisation is known as “status creep” or “institutional drift”. This is the process whereby institutions try to move up in the hierarchy of institutions, or provide high-level qualifications. For example, *Fachhochschule* are trying to be recognised as full universities; some of the Norwegian state colleges have successfully petitioned to offer baccalaureate degrees and to be called university colleges. Technical institutes in the U.S. and Canada have often become comprehensive community colleges, and community colleges have in turn tried to offer baccalaureate degrees; the Further Education colleges in the U.K. are starting to offer more university-level courses. In some of these cases “status creep” results in specialised institutions becoming more comprehensive, and the question is whether this strengthens VET — for example, by allowing the incorporation of general education and greater flexibility for students — or whether this undermines the quality of VET by giving it second-class status within comprehensive institutions.

Another institutional process has been the effort in some countries to consolidate many small programs into larger institutions. For example, the Norwegian state colleges and the Finnish polytechnics were formed by incorporating many smaller, more specialised vocational institutions. In other countries like Denmark, a large number of smaller specialised institutions still exist, though there have been suggestions of consolidation. Consolidated institutions are presumably more visible and have more political power than smaller programs; they may benefit from economies of scale; they may allow students to change subjects more readily; and they may facilitate linkages among other educational institutions, since these might be difficult to arrange with smaller specialised programs. The phenomenon of consolidation is interesting because it indicates that specialisation, despite some potential advantages, can be taken to extremes. Therefore it’s worth asking what the benefits and costs of consolidation have been, in countries that have recently experienced this shift.

As part of describing countries’ VET systems, therefore, a thematic review might go beyond the description of institutional forms to examine the advantages and disadvantages of specialisation, comprehensiveness, and consolidation, as well as the flexibility for *students* of different institutional structures. Similar questions about the flexibility for employers will be examined in Section 7.4.

2.4 School-based versus work-based learning

One of the most obvious differences among country VET systems involves the extent of work-based learning. Countries with the dual system — Germany, Austria, Denmark, and German-speaking Switzerland — by definition include large amounts of work-based learning in their apprenticeship components.² At the other extreme, the English-speaking countries have relatively little work-based learning despite various government efforts to encourage it. In the middle, some countries like France have a small dual system in secondary education alongside larger school-based VET in BTSs and IUTs; these

² There’s a vocabulary problem in referring to work-based learning, which is referred to in English variously as “apprenticeships”, “internships”, or “work placements”, with some overlap between work placements and service learning in the U.S.; sometimes there are further refinements, such as the now-abandoned effort in the U.S. to define “apprenticeships” as work placements of at least two years’ duration. I use the generic term work-based learning to encompass all of these, understanding that the duration, timing, and content of work-based learning must always be described lest short and casual work placements (like the work experience programs in England, typically lasting one week at the end of compulsory schooling) be confused with the longer and higher-structured work placements of the dual system.

might be described as mixed systems, though they tend not to have the dedication to work-based learning of countries with a dual system.

The German and Austrian dual systems have been the envy of many countries, and there have been various efforts to emulate these countries. Many of these efforts have been weak, short-lived, and ineffective, like the School-to-Work Opportunities Act (STWOA) in the U.S., Modern Apprenticeships in the U.K., and similar efforts in Australia; few of these have been able to generate large amounts of work-based learning. On the other hand, there may be more promising efforts in some other countries; for example, the OECD (2003) review of adult education uncovered a “pay or play” system in Quebec — one in which employers could either provide training or pay into a system to support work-based training — that apparently stimulated both more work placements and greater employer involvement in discussions about VET needs. At the same time, the current “crisis” of the dual system has arisen in part from a shortage of apprenticeship positions, so evidently these problems exist even in countries with long histories of work-based learning. There are currently proposals in Germany to establish levy-grant systems — where government collects subsidies from all firms within a sector, even those which do provide apprenticeship training (Bornemann, 2005)— and the acceptability and effects of such financing mechanisms in several countries might be the subject of investigation.

A worthwhile question, then, is what causes shortages of work-based learning placements, in countries with well-established dual systems, in countries with mixed systems, and in countries that depend on school-based VET. There’s no reason to think that the reasons are the same in all countries. For example, in some countries declining government subsidies may be responsible, while others have not taken the time or developed the institutional infrastructure (like unions and employer associations) necessary. The pressures for market liberalisation and reduced labour costs across the globe, and specifically in the EU, have surely contributed to the difficulties of some employers providing apprenticeships. And some countries like Germany have found a decreasing proportion of young people wanting to enter apprenticeship rather than school-based routes, so that student demand, employer supply, and government subsidy may all be working to reduce apprenticeships. At the same time, some problems — like the tendency for firms to “poach” trained workers from other firms, to avoid the costs of training — are ubiquitous since they are rooted in the nature of labour markets. Similarly, the effectiveness or ineffectiveness of government efforts to stimulate work-based learning is a question that could be asked in a number of countries trying to emulate the dual system.

This subject is a good example where questions about theories of action would be particularly useful. Why, for example, did U.S. policy-makers think that STWOA would smooth the transition between schooling and work or provide more work placements (their espoused theory), and how did the Act work in reality (the theory in use)? Why did the British government think that its various efforts to increase work-based learning would work over the long run, in a country whose apprenticeship systems were more or less abandoned in the 1960s? Some better understanding of which government policies are effective, under what conditions, might help countries avoid short-lived efforts and might help suggest to countries with the dual system ways to avoid the continual “crises” linked to shortages.

2.5 The special issues in job training versus vocational education

VET conventionally includes training as well as vocational education, though the boundaries between the two are often imprecise. In many countries “training” refers to short-term job training programs operated by Ministries of Labour (rather than Education), and provided to the long-term unemployed, welfare recipients, and others whose attachment to the labour force is weak — in other words, forms of remedial VET. In addition, “training” is often used to describe the efforts of firms to provide upgrade training to their own workers — sometimes with public financing, sometimes with employer financing only. Often, “training” is thought to be of shorter duration and intensity, to focus exclusively on job-related

skills instead of incorporating any general competencies, and often to aim at lower-level competencies and occupations than vocational education does. In many cases training is firm-specific rather than general, particularly when firms provide training to their own workers. In some countries, the existing evidence suggests that the economic benefits of training are very small or even negative compared to vocational education that under the right conditions can generate substantial economic returns (Ryan, 2001; Grubb and Ryan, 1998; Grubb 1996 for the U.S. only). However, “training” and “vocational education” may overlap, particularly in low-skilled areas (like word processing, food service work, lower-level medical occupations, perhaps some of the crafts) where roughly the same kinds of preparation can be seen in both “training” programs and in “vocational education” programs.

Because training often focuses on remedial VET and upgrade training, it would normally be outside the scope of this OECD review. However, two questions of interest remain:

1. Where do vocational education and training overlap? What then are the differences between “education” and “training”, especially when provided by Ministries of Education and Labour respectively? Is the apparent duplication of effort really duplication, or do the two kinds of programs serve different groups, different purposes, or different social purposes?
2. What are the links from training programs into longer-term vocational education? This is the question first raised in Section 2.2 above: have countries been able to establish pathways where individuals first enrolling in “training” can then move into “vocational education”, or are such pathways blocked by administrative constraints?

Addressing such questions would be one way to establish the boundaries of VET systems in different countries. This is in turn linked to other issues relating to boundaries of existing VET, including the links to adult education mentioned in Section 2.2 and the boundary between VET and universities raised in Section 3.2 below.

2.6 Models and scenarios for VET

At the most abstract level, several individuals have provided models that help explain patterns among countries in VET systems, and other have created scenarios for the future development of VET that help explain potential directions for the future. For example, David Soskice has contrasted “institutionalised” VET systems — dominated by countries in northern Europe, with strong VET traditions, often with dual systems and substantial employer commitments, committed to strengthening VET institutions but avoiding market competition, with qualifications developed by social partners, and with well-defined job possibilities at the end of VET — with market-driven VET in the English-speaking countries, with a weak VET tradition, a dominant academic tradition, weak employer commitments and work-based learning, and competition among providers within a government-established framework.³ This helps understand two main constellations of VET systems, with other countries following hybrid or mixed approaches.

In a different effort based heavily on the German system, Grollman, Rauner, and Kruse (2001) categorised four ways of moving from school to work: through academic institutions like the university and *hochschule*; through a dual system of training in work and in school; through vocationally-oriented schools like technical institutes or *Berufsakademien*; and without vocational education at all, forcing firms to prepare their workers. This kind of categorisation can be applied to countries as well, though normally countries use more than one approach; different ways of using the four alternatives might lead to alternative models of VET. The authors then go on to develop three alternative scenarios for Germany: *i*) a

³ Presentation at “The Changing Role of Vocational and Technical Education and Training (VOTEC)”, OECD, Paris, 28 – 30 November 1994.

shift from the dual system to a plural system of VET, with a weak dual system, more higher education institutions involved in providing VET, and more vocational academies (both public and private); *ii*) the development of VET shaped more by changing work processes, with more fluid patterns of attending vocationally-oriented schools, colleges (*Fachhochschule*), and universities, closer ties to employers, the inclusion of more employer-specific training, more public-private foundations rather than government funding only, and a less sharp distinction between initial preparation and further training; and *iii*) a re-evaluation of formal education, where more students go on to university, schools (and colleges and universities) formerly oriented to general education begin to incorporate more VET, the development of more practical qualifications in both colleges and universities, specialisation among universities based on occupational areas, and the dual system relegated to a bridging role while students wait for university admission. The third scenario is quite similar to the system that has developed in both the U.S. and the U.K., with high proportions of students going on to post-secondary education, largely vocational community colleges and FE colleges, and universities themselves providing a wide array of vocational or “professional” qualifications. These scenarios may therefore be useful either in understanding differences among current VET systems, or in forecasting future directions.

A somewhat different forecasting exercise undertaken by CEDEFOP and ETF (the European Training Foundation) generated four different scenarios for Europe as a whole (Sellin, 2002). Its scenarios fill in a 2 x 2 matrix with competition vs. socio-economic cohesion and co-operation among countries as the two column headings, and liberalisation/ decentralisation vs. convergence/mutual learning as the two row labels. Then Cell 1 describes competition and isolation among countries; cell 2 is one where the development of a wider European system slows under the pressures of decentralisation and market forces; cell 3 describes convergence of VET systems without coherence since country systems continue to compete and efforts to develop Europe-wide rules and procedures are weak; and cell 4, one of balance and coherence in a comprehensive European VET system, is presumably the dream of EU officials. This set of scenarios focus on relations among countries, whereas Grollman et al. focus on different institutions and their general vs. vocational emphases, and Soskice focused on market mechanisms versus institutional forces.

Evidently, there are several ways of conceptualising VET systems, and some of them — like the EU-focused approach of Sellin — are not applicable to a wider set of countries. However, an effort by OECD to conceptualise the approaches in existing VET systems might help clarify the basic patterns in a variety of countries. What would be necessary is to assure that all country studies collect the same basic information — for example, about basic institutional types and offerings, the balance of work-based and school-based learning, and the changing economic conditions shaping VET systems.

3. THE LEVELS OF VET SYSTEMS

Traditionally, discussions of VET have been about secondary VET programs. For some countries this is still true; for example, the countries concerned with upgrading the status of secondary VET, and using secondary VET to increase completion rates, may focus exclusively on the secondary level. However, in most developed countries the expansion of the average level of education and the development of new institution types have created a VET system that is considerably more complex, with several different types of postsecondary institutions alongside more traditional secondary VET, and with universities also creating programs that compete with VET programs. One task of an OECD review, therefore, would be to clarify the different levels of the VET system, and then to determine what levels of the labour force they prepare for.

3.1 Postsecondary VET in technical institutes and colleges

Many countries have created postsecondary institutions, below the level of the university, that enrol substantial fractions of postsecondary students and provide vocational education (Grubb and Sweet, 2004). Some of these are comprehensive institutions providing both general and vocational education, like the community colleges in the U.S. and Canada and FE colleges in England. Some of them are entirely vocational, like the *Fachhochschule*, the Finnish polytechnics, the TAFE colleges in Australia, the IUTs of France, and the *hagescholen* of the Netherlands. It's been difficult to know what to call these institutions: they have been called short-cycle higher education (OECD, 1973), the "higher vocational sector" in the Netherlands, technical colleges, technical institutes, or polytechnics; in some countries (like Canada and Norway) some of them have gained the right to be called university colleges, further complicating the vocabulary. They vary substantially in the level of occupational preparation (the subject of Section 3.3); they also vary in their tendency to send students to higher levels of the education system rather than sending students into employment, with such transfer very common with IUTs but quite rare for *Fachhochschulen*. Sometimes students use them in ways they were not originally intended; for example, the IUTs were initially intended to increase the supply of skilled workers, but most students now use them as a superior route into the university.

Where these institutions exist, there are at least two levels of VET — in secondary education and then in these postsecondary forms. However, in many countries the situation is even more complex. In France, for example, there exist two kinds of postsecondary institutions — the Sections de Technicien Supérieures (STS) provided by the lycées (upper secondary schools), and the IUTs organised within universities, usually seen as superior to STSs, so there are in effect three levels of VET — secondary, STS, and IUT — below the universities and the *écoles supérieures*, which are high-level professional schools. In Germany, the dual system coexists both with *Berufsakademien* and *Fachhochschulen*, so there are again at least three levels of VET below the university. In the U.S., some secondary VET still exists; area vocational schools provide both secondary and post-secondary VET, and community colleges offer the most sophisticated occupational education below the university level — again, creating at least three levels of VET. In Australia, the Howard government has proposed a set of Australian Technical Colleges, specialising in particular craft occupations in short supply, alongside secondary VET, TAFE colleges, and universities (AEU, 2005). In describing the structure of any country's VET system, then, it is crucial to take account of several different levels of VET, with postsecondary VET particularly complex.

The origins and purposes of these difference levels of VET are worth considering. In some cases they have emerged from the process of "institutional drift"; in other cases (like the Norwegian state colleges and Finnish polytechnics) they resulted from consolidating smaller vocational programs. The *Fachhochschulen*

in Austria and Germany were created to educate more skilled technicians. The U.S. community colleges date from 1918; however, they added vocational programs largely in the 1960s and 1970s, and the balance of vocational and general education is a constant debate. Learning more about the origins of these postsecondary alternatives can therefore characterise their roles in country systems.

3.2 The VET/University boundary

Conventionally VET is defined as the preparation for occupations in institutions below the level of the university, and this paper largely adheres to that definition. However, several trends have contributed to making the boundary between VET and the university less sharp than it used to be (Huisman and Kaiser, 2001), so that universities provide some of what would otherwise be considered VET. While an OECD review might want to concentrate on the sub-university VET, it might also examine where universities seem to be moving into traditional VET activities.

One trend is the tendency of universities to provide programs and courses that overlap with lower-level post-secondary VET. For example, in Korea the colleges have complained that universities are offering programs in direct competition with them; in the U.S. both universities and community colleges offer nursing programs, and competition between Associate degree and baccalaureate degree nurses is fierce; in the Netherlands and France universities have traditionally provided vocationally-oriented courses (Huisman and Kaiser, 2001). This is a kind of institutional drift “downwards”, by universities in search of enrolments, as distinct from institutional “drift” upwards (see Section 2.4), of institutions below the university level seeking status. The existence of these two forms of “drift” simultaneously leads itself to blurring the VET-university boundary. Then the question arises of whether graduates of university programs do better than those in similar VET programs. This proves to be the case for American universities compared to community college graduates, and of university business and economics programs compared to similar programs in *högeskol* (Grubb, 2005; Heijke and Koeslag, 1999), but it is not necessarily true in all countries.

In addition, the development of highly vocationalised (or professionalised) universities means that there is inherent ambiguity about the content of programs at different levels. Both universities and community colleges in the U.S. offer programs in business, IT, and biotechnology; the former polytechnics in England, now called universities, offer a wide variety of professional or vocational programs, much as FE colleges do, and are sometimes the butt of jokes for offering such degrees as recreation management and leisure studies thought unworthy of universities. This blurring of the boundaries is more likely to happen in countries where there are several levels of universities, and where the diversity (and differing status) of various universities is accepted. The differentiation of universities is a trend contributing to this, for example in Australia where there is increasing acknowledgement of the differences between the top universities and the rest, and in Germany where a series of elite universities will be created, distinguishing them over time from a lower-status tier (Kehm, 2006). Blurring of boundaries also seems more likely in countries where market mechanisms govern, as in Soskice’s market-driven model of VET, where institutions compete for students and where the higher status of the university and the baccalaureate degree are likely to attract more students. Conversely, in highly institutionalised systems there are more likely to be more rigid boundaries — for example, in Austria, where the boundary between the *Fachhochschulen* and the universities is quite clear. But in countries where the academic focus of universities has given way to much more occupationally-specific programs, it’s difficult to maintain the old boundary between VET and university.

Third, in some countries post-secondary but non-university institutions are providing larger amounts of university-level education. In Canada, especially in British Columbia, some community colleges in conjunction with nearby universities are providing courses for the baccalaureate degree; FE colleges in Great Britain are providing more university-level courses (though not degrees); TAFE colleges and

universities in Australia are collaborating on courses; and community colleges in the U.S. have lobbied to offer the baccalaureate, and in some states are allowed to give an “upside down baccalaureate” where a specialised occupational program in the first two years is followed by two years of more academic content — but where the field of study is clearly vocational.

In several ways, then, VET no longer stops at the university level, and the continued use of an older definition can only hamper the ability of OECD to understand the full sweep of VET. One solution to this dilemma is for a thematic review to concentrate on traditional secondary VET and the newer post-secondary non-university institutions as well, but also to learn from the latter types of institutions where universities are competing with them or offering similar programs. This would at least enable OECD to understand where VET is pushing up into universities, and with what consequences.

3.3 Levels of the labour force and levels of VET

With enough national data, it is straightforward to understand the different levels of VET systems, how many students enrol in each, and what the flows of students among levels are. However, it is much more difficult to understand the kinds of occupations that each level emphasises, partly because program and occupational titles are often ambiguous. Programs in business, IT, and health occupations exist at the secondary, post-secondary VET, and university levels; “electronics” or “technician” or “engineering” programs can be found at many levels, from short-term job training up to the university level. Furthermore, some institutions that seem to occupy the same level of the educational systems of different countries seem to operate at different levels of sophistication. For example, the *Fachhochschule* in Germany and Austria appear to prepare students for higher levels of the labour force than do TAFE colleges in Australia; the IUTs in France are more advanced than the STSs. In many countries secondary VET persists, even though postsecondary programs have been increasing and appear to dominate VET; in these countries — the English-speaking countries provide good examples — it’s not always clear what the residual secondary programs accomplish.

Therefore it is necessary to understand more precisely how different levels of VET systems are articulated with different levels of the labour force. Levels within the labour force can be defined in several ways, of course. One approach has been to designate three (or four) levels, with professional-level work at the top; one or two levels of moderately-skilled work; and the unskilled work, or work that requires only a small amount of on-the-job training, at the bottom. Another way to categorise the labour force would be again to designate professional work at the top, requiring both substantial levels of general education as well as more occupation-specific competence; “modern” middle-level occupations requiring both some general education as well as occupational skills, and often associated with new technologies (like IT programs, electronics, biotechnology, and sophisticated health technicians); the “traditional” crafts and occupations associated with the Industrial Revolution, requiring relatively little general education and a great deal more specific skill, including manual skills; and then unskilled work. Heijke and Koeslag (1999) have defined occupations appropriate for higher vocational education in the Netherlands (the *högeskol*) and for universities, though graduates of both institutions show up in both sectors. Of course, occupations can shift in any of these categorisations; for example, metal-working — a “traditional” craft — has become “modern” through the introduction of numerically-controlled machine tools. Developing a useful categorisation applicable to all OECD countries might itself be a challenge.

Then it appears (to me, at least) that the *Fachhochschulen*, polytechnics in Finland, and many (but not all) U.S. community college offerings appear to target these “modern” middle-level occupations; TAFE colleges in Australia appear to focus more on “traditional” middle-level occupations; French secondary schools focus on the traditional crafts, including some (in “métiers”, like bakers and charcutiers) that are quite honoured; secondary programs in some countries prepare for traditional crafts, but in other countries do little more than prepare students for unskilled entry-level work. The fuzzy boundaries between VET and

universities only compound these difficulties: the programs in some *Fachhochschulen* may be equivalent to university programs in other countries, and conversely some of the professional offerings in second-tier universities appear to be sub-professional, more like the “modern” middle-level programs. Given the variety of levels in existing VET systems, it is difficult to compare them across countries without better information than now exists about the kinds of occupations they emphasise.

4. THE FINANCING OF VET

A conventional part of any VET analysis is determining the sources of funding, and this should surely be part of any OECD analytic review. However, even conventional analyses of funding raise questions about the “theory” or conception of who *should* fund VET (or any other kind of education), the subject of Section 4.1. Then there are issues about other sources of funding including tax expenditures, contributions from welfare states, and loans, examined in Sections 4.2 and 4.3. VET, in comparison to general education, often has higher costs, for materials, equipment, and work-based placements, examined in Sections 4.4 and 4.5. Finally, a number of novel approaches to funding VET are examined in Section 4.6.

4.1 Sources of direct funding: Individuals, governments, and employers

A conventional analysis of funding — included, for example, in all of the CEDEFOP analyses of country VET systems — describes the amounts of funding on VET systems from governments in the form of subsidies and from individuals or students in the form of tuition (particularly in post-secondary programs). VET expenditures are easier to calculate where there are specialised VET institutions, but where countries have comprehensive institutions then disentangling VET spending from general education may require complex and uncertain assumptions. The contributions of employers are even more difficult to estimate. Some of these come in the form of taxes (like levy-grant systems mentioned above) but others come in the form of contributions of materials or equipment; some take the form of providing work-based learning, including the apprenticeship placements of the dual system. So it becomes difficult to develop good estimates of the total direct funding for VET, though some components can be estimated and others described.

However, what may be more important than precise estimates of total spending is information about the conceptions underlying funding. In some countries — the Scandinavian countries are good examples — the notion of education being free to students is so deeply ingrained that suggesting increased tuition is immediately rejected; in such cases potential inequities may exist, if upper-income students are more likely to continue in education and receive higher subsidies, and of course the demands on government funding are greater. Other countries have adopted something closer to benefit principles — so that groups who benefit support education, with students or their parents bearing more of the costs through tuition, and (in the dual system) firms bearing the costs of apprenticeships. Whether benefits are correctly calculated — that is, whether the burdens on governments, students, and employers reflect how much they benefit — is then a secondary discussion, about how high tuition and employer contributions should be relative to government subsidy.⁴ A related discussion is whether tuition levels are high enough to discourage enrolment, particularly among low-income students — potentially creating equity problems. Of course, it is always possible to increase tuition and then to provide grants offsetting tuition to low-income students; this then generates the question of whether countries have tried to offset the tuitions of VET program in some way.

A different argument, stemming from Becker’s (1993) discussion of firm-specific versus firm-general training, is that firms should pay for the training that is firm-specific, or useful only to that firm; either government or students should pay for general VET, useful in all firms. This in turn leads to the question of whether there are government (or student) subsidies for firm-specific training; in the U.S., for example,

⁴ This discussion could benefit from the theories of optimal taxation and pricing within economics.

community colleges often provide training for specific employers with the justification of economic development — that subsidised firms will generate more employment or income for the region. This perspective suggests examining the extent of relatively firm-specific training within VET systems, to see whether contributions from or subsidies to employers appear to be justified.

4.2 Hidden costs: Tax expenditures and subsidies from welfare states

As difficult as it may be to estimate direct spending on VET, there are other forms of support that are even more difficult to uncover. The first of these includes tax expenditures — those subsidies, to students or their families and to employers — that operate through the tax system, when taxpayers are granted deductions or credits. Such subsidies, often called tax expenditures, take the form of revenue uncollected rather than revenue disbursed (as in direct expenditures), but they are still real costs to government. Economists often dislike tax expenditures because their magnitude is often unknown, because they may be inequitable (benefiting only upper-income taxpayers, for example), and because they may be inefficient — that is, they benefit individuals who would have engaged in the activity (like enrolling in VET) without the subsidy. However, tax expenditures are often politically popular precisely because they are ways of supporting activities without having to generate new revenues. However, much firm-specific training is upgrade training, and therefore beyond the scope of this review.

Tax expenditures often arise inadvertently when certain business-related expenses are deductible. In some cases, however, tax expenditures have been used as deliberate instruments of education policy. In the U.S., for example, the Hope and Lifelong Learning Tax Credits were ostensibly⁵ intended to support the first two years of post-secondary education and lifelong learning, respectively. An open question is whether other countries have tried to use tax credits and expenditures to stimulate VET; if so, these are particularly appropriate places to examine the equity and efficiency of such policies.

It's worth examining whether tax expenditures exist in various countries, and analysing who benefits from them. Whether they can be precisely estimated depends on what data are available from a country's ministry in charge of taxation. So, as for direct spending on VET, it may be that qualitative statements about tax expenditures are all that are possible. But given questions about the equity and the efficiency of tax expenditures, and the possibility that they are of substantial magnitude in some countries, a thematic review should investigate the existence of these subsidies.

The other hidden costs come in the form of subsidies from policies of welfare states. For example, in Finland it proved impossible to calculate the total government costs of post-secondary education because many of these costs were housing allowances, food subsidies, transportation subsidies, health care, and income support from the welfare state (OECD, 2004). The magnitude of these subsidies is unknown by Ministries of Education, and often not calculated by the ministries of social welfare, but it is clear that they are crucial in enabling students to attend postsecondary education (including such VET institutions as polytechnics, Norwegian state colleges, and *Fachhochschule*). At the other extreme, countries with small and market-oriented welfare states are likely to provide very little to postsecondary VET students. Again, while it may not be possible to calculate these costs precisely, they can at least be described in various countries, and their influence on enrolments assessed.

⁵ Ostensibly, because most observers considered the Hope and Lifelong Learning Tax Credits to be forms of general middle class tax relief, not really efforts to stimulate education — pointing once again to the inefficiency of these policies.

4.3 Loan finance

Many countries have also developed loan systems to enable students to borrow and then repay the costs of their education. Of course, loans assume that education will lead to higher levels of learning in the future from which the loans can be repaid; if earnings do not increase — or do not increase for some groups — then they are inappropriate instruments of finance. Australia has a well-developed system of income-contingent loans,⁶ though they can be used only for universities and not for TAFE colleges; Great Britain has recently instituted an income-contingent loan system, modelled on Australia's. The U.S. has a grant and loan system in which all postsecondary education can participate, including community colleges and private trade schools; however, high rates of defaults on loans to students in community colleges and trade schools — particularly when students have found that their earnings do not increase by enough to repay loans — have been a source of constant concern. The value of loan finance is therefore tied to the value of VET in the marketplace, the subject of Section 8.2.

In a system of benefit financing that distributes the funding of VET among beneficiaries — students, governments, and employers — loans are mechanisms allowing students to pay the costs of VET from the higher earnings that VET creates. In a full accounting of sources of revenue, therefore, Background Reports and visits should ascertain the availability of loan programs for VET, particularly postsecondary VET, along with any systemic problems like lack of access to loans, problems in repaying loans, or higher rates of default.

4.4 Funding equipment, supplies and work placements: The higher costs of VET

VET is usually thought to cost more than general education, because of higher costs for materials, equipment, special facilities, and in some cases work-based placements or internships. This pattern may not affect some forms of VET — business, for example, or retail trade — but it certainly affects some of the traditional trades (metal-working, auto repair, commercial food preparation) as well as “modern” occupations including bio-technology with specialised equipment and health occupations. The question to raise is how these additional costs are covered. In a few cases (like Finland), countries have increased payment rates for VET programs compared to general education. In other cases programs rely on donations and sharing arrangements with employers, a practice that forces them to rely on the voluntary generosity of firms. In the dual system, employers are required to provide work-based learning while state (*Land*) governments pay the school costs, so most of the higher costs are borne by employers.

The first question to ask of country VET systems is how these additional costs are paid for. Again, the response in many countries may be a qualitative response, rather than precise quantitative estimates.

The second question is what difference these higher costs make. Any particular allocation of these extra costs may create disincentives. If the costs are passed on to *students* in the form of higher VET tuition, then there may be disincentives to enrol. If higher costs must be paid by educational institutions, without additional payments, then rational institutions responding to the marginal costs and the marginal benefits of different programs will provide relatively less VET (or less high-cost VET) and relatively more general education, or low-cost VET — which may not be socially efficient.⁷ (Indeed, some of the programs

⁶ Conventional loans must be repaid starting right after education is complete; income-contingent loans are repaid when an individual's income reaches a certain threshold. They therefore postpone repayment to the years of highest earnings, rather than forcing individuals to repay during years of relatively low earnings.

⁷ Social efficiency can be examined by comparing social benefits to social costs, whereas an institution's incentives are determined by institutional benefits (additional revenue) compared to institutional costs, which are higher for VET. The institutional calculation will only by chance be the same as the social calculation. Where institutions face incentives to maximize their economic positions — as for community

promoted as part of commitments to new technologies, like engineering programs, bio-technology, and new health occupations, are likely to be some of the highest-cost programs.) And if higher costs must be paid by employers, they may decrease their participation in VET or the numbers of apprenticeships they provide — potentially one of the crucial causes of under-supply in countries with the dual system. So the consequences and disincentives associated with higher costs, depending on how they are allocated to various participants, is a crucial result of country finance mechanisms.

4.5 Incentive-based or output-related funding (ORF)

Some countries have adopted outcome-based funding systems for VET, making funding to institutions contingent on measures of success — placement rates in related occupations, for example, or earnings levels (Felstead, 1998). These have been adopted, for example, in short-term job training programs in both the U.S. and Great Britain, and community colleges in Florida and California. The idea behind these funding mechanisms is, of course, to reward and thereby stimulate better outcomes, and to penalise those institutions that are performing poorly.

However, as attractive as these finance mechanisms are, there are many difficulties in implementing them. There is first a systemic problem: if low-performing institutions have their resources reduced, they may be unable to improve, and the increased funding to the highest-performing institutions may enhance their quality, so that over time there is increasing divergence in the quality of educational institutions. Therefore countries that try to minimise the variation in the quality of educational institutions — Korea with its high schools, Germany with its universities — would be expected to avoid ORF, and instead to *increase* resources to low-performing institutions in an effort to improve them. More generally, ORF is consistent with market-like mechanisms of providing VET, not with the institutionalised approaches described by Soskice.

ORF requires that a number of decisions be made precisely. The most obvious of these is what measures of output or performance to use, and virtually every approach may create odd or undesirable incentives. If, for example, employment (or employment in related occupations) is used, then this creates an incentive for “creaming”, or accepting only the most able and job-ready individuals into a program. Often gain scores — for example, *changes* in test scores, rather than *levels* — are used to get around this problem, but it’s difficult to know how to calculate a changed employment probability for programs.⁸ Using earnings as the output measure creates similar undesirable incentives; in addition, employment or earnings may favour programs in fast-growing regions and penalise those in stagnant regions, so that ORF formulas in countries with substantial regional variation should incorporate measures of regional economic activity. The JTPA program in the U.S. used cost per placement as one of the outcomes, in order to induce programs to avoid high-cost programs; but the result was a proliferation of short, low-cost, and ineffective offerings. Every formula creates incentives, and many undesirable incentives are difficult to predict.

In addition, ORF must decide how much additional funding to allocate to programs with higher measures of outcomes. If this amount is too little, then the incentives to respond will be low; if the amounts are quite high, then incentives are more powerful but the incentives to manipulate the data to show greater success are also greater. In the JTPA funding mechanisms, many programs manipulated their placement rates by officially “enrolling” individuals several weeks after the start of the program, after uncommitted individuals had dropped out; some of them counted movement to other training programs or to the military as “placements”, and some had working relations with marginal businesses which would hire trainees for

colleges, or grant-maintained schools and FE colleges in England — then administrators usually become knowledgeable about these marginal benefits and costs.

⁸ The use of change scores in value-added assessment has itself been highly controversial; see the special issue of the *Journal of Educational and Behavioral Statistics*, Spring 2004, and Grubb (2006).

short periods of menial work and then let them go, creating the false appearance of high employment rates. Similarly in England, the need to show high placement rates caused some TECs (Training and Employment Councils) to use a network of marginal employers, who in effect used these programs as temporary job agencies. One way to avoid such manipulation is to reduce the amounts of money at stake, as Tennessee has done in creating a small amount of performance funding for community colleges based on 11 criteria (or “standards”) — too many for any one criterion to be especially powerful; these amounts of funding are too little to create widespread cheating, but large enough to attract the attention of many colleges. There are ways, therefore, to avoid some of the potential negative consequences of ORF, but they must be carefully thought through.

For an OECD review of VET practices, the question is to see which of the countries included has adopted any version of ORF, and then to investigate how well this has worked — including whether it has created negative incentives. Such practices do not now appear to be numerous enough to merit a great deal of attention, though they may be more important in selected countries.

4.6 Voucher mechanisms for funding

A final innovation to consider is the creation of vouchers for VET. These are intended to grant greater decision-making power to students (“consumers”) and to expand the variety of offerings, increasing quality as well if “consumers” choose high-quality institutions. Such funding mechanisms are related to efforts to use market-like mechanisms in education, and are again likely to be shunned by countries following the institutionalised approaches described by Soskice. They have been adopted in Great Britain as part of the marketisation of education, particularly in Youth Training Schemes; Austria has adopted *Land*-funded *Bildungskontos* to provide individuals with the means to purchase various kinds of training. However, voucher-like mechanisms exist in some other forms, sometimes not well-recognised: when students receive loans (including income-contingent loans) or grants that they can “spend” in any postsecondary institution; when students are free to choose among a large number of colleges or technical institutes or *Fachhochschule*, and are subsidised equivalently in each one; when student mobility is supported by welfare state subsidies for housing and transportation (as in Finland) so that they are free to choose institutions all over a country. All of these facilitate student (i.e., consumer) demand as a driving force in VET.

Where countries have adopted voucher or voucher-like mechanisms, the question is what the effects have been. There has been an enormous and contentious literature about the consequences of vouchers, especially in the English-speaking countries, and this is not the place to summarise this vast literature. Some of the dominant concerns have been whether vouchers enhance equity and access to VET among low-income (or minority) students, whether they increase the choices available to prospective students rather than simply replicating existing patterns (as happened in Great Britain, according to Hodgkinson et al.), whether mechanisms are in place to facilitate *informed* student choice, and what the effects of vouchers are on quality. To the extent that countries have adopted vouchers or voucher-like mechanisms in VET, therefore, the OECD thematic review should collect information about the nature of these mechanisms and their consequences.

Usually, voucher mechanisms are considered substitutes for institutional funding, and one of their benefits is presumably to end the monopoly of public providers by expanding the range of offerings. However, there is a different way of understanding vouchers, as complements to institutional mechanisms. In Gallagher’s (2003) model, there are four types of funding models: demand-side and supply-side funding of students and institutions; and planning (of institutional) approaches versus market-like approaches. All four may be appropriate for a diversified system of education. In particular, as long as there is enough institutional support to create “strong” VET institutions — that is, those that are relatively stable, sure of their purposes, technically competent, and committed as much to the “product” (the quality of education) they provide as to profit — then well-informed consumers can make rational choices. But when

unsophisticated consumers face suppliers who are "weak" — for example, new entrants, or providers committed more to profit than their product, sometimes ruthless and exploitive — then fraud and low quality may result, as happens with many private trade schools in the U.S. One implication is that the dichotomy evident in David Soskice's distinction between market-driven VET systems and institutionalised VET may be correct as a *description* of countries, but not as a *prescription* for ideal systems, which may require government intervention to create "strong" VET institutions *and* flexibility on the student side through choice mechanisms.

5. CURRICULAR AND PEDAGOGICAL ISSUES

In discussions of VET, curricular debates are relatively neglected, and pedagogical issues — how instructors convey the substance of the curriculum — are almost completely ignored. However, many countries are concerned about the quality of VET and about teacher preparation, and neither of these can be enhanced without paying attention to both curricular and pedagogical issues. I therefore present three of these issues — the debate over what “skills” should be included in the curriculum, the role of general education in VET, and the special pedagogical problems of VET — so that the OECD thematic review can take them into consideration.⁹

5.1 Shaping the curriculum and defining skills

One problem that VET confronts, much more than general education, is keeping up to date. The most obvious debates about VET curricula have focused on how skills are changing and how to incorporate them into the curriculum. One question to raise, therefore, is how VET programs stay up to date. When employers and VET programs have close direct connections (the subject of Section 7.2 below), the information and sometimes the equipment needed to keep up to date are presumably easy to transmit to programs. Within the dual system, the work-based component provides another method for keeping up to date. But within school-based VET, especially in countries without traditions of employer participation, it's often unclear how these programs can keep up with changing (and sometimes expensive) technology, changing demands for particular skills, and changing occupations. Learning about the methods of keeping up — or failing to keep up — is therefore an important task of country studies.

One of the most heated debates in education has been the discussion of changing skills or competencies. Great Britain has had an endless series of efforts to define “key” and “core” skills; Germany has been trying to redefine *Schlüsselqualifikationem* (key qualifications) and Spain its *qualificaciones quiaves*; many countries have called for “skills of the 21st century” or “higher-order skills” to become competitive in what the European Union has promoted as the Europe of Knowledge, and the OECD (2001) emphasises as the Knowledge Revolution. The key or core or higher-order skills are remarkably similar from country to country, and usually include problem-framing and problem-solving, communications skills and teamwork, analysing information, critical thinking and reasoning “skills”. Sometimes these are determined from employer surveys, sometimes from task analysis or other methods of examining the workplace, but sometimes they seem to be made up.

However, what is as important as articulating the need for new forms of human capital is embedding them in the curriculum and in assessment systems. Here is where a thematic review might contribute to understanding whether and how VET curricula have changed. In some cases, it appears that nothing has changed; for example, “problem-solving” sometimes takes the form of conventional word problems in math, and “communications skills” are sometimes tested with conventional reading and writing tests. In other cases new methods of teaching seem to have emerged, including project-based methods, efforts to integrate academic and vocational education, and the “learning fields” being implemented in Germany,

⁹ This section draws largely on the review of VET pedagogical issues in Achtenhagen and Grubb (1999), supplemented by Grubb (1999, Ch. 3). In our review, Achtenhagen and I found a great deal of writing about vocational pedagogy in German; only a little in English; and almost none in French or Spanish. Since then, I believe there has been more writing in Australia, and also in some Scandinavian countries influenced by activity theory. Unfortunately, finding relevant writing is quite difficult, particularly when it is written in unfamiliar languages.

which attempt to understand the wide range of learning processes and settings in VET (Bauer and Przygodda, 2003). But it is difficult to learn about the range of practices that might enhance these “higher-order skills”, and so country studies might first determine what “new” skills have been articulated in different countries, and then ascertain how these are being taught and assessed.

5.2 The general education component of VET

Many occupations require substantial general or academic education, particularly the occupations in relatively high levels of VET (e.g., in *Fachhochschulen* or polytechnics), in “modern” occupations, including technicians of many kinds, and even in traditional craft occupations like automobile repair where complex manuals and computer-based machinery have increased the reading and information skills of workers. In some countries there are formal curricular requirements to assure that different kinds of skills are incorporated; for example, Denmark divides its curricula into basic or general subjects, area subjects in the vocation, special subjects, and optional subjects, in order to be sure that its VET programs are sufficiently broad. In the dual system, the inclusion of school-based learning in addition to work-based learning has much the same intent, of assuring that students learn sufficient general content. In some countries like the U.S., a core of general or academic courses is required of all students receiving the Associate’s degree, though students in shorter certificate programs can escape these forms of general education. In other cases, like the TAFE colleges in Australia, it is unclear how general education is incorporated since there are no academic teachers or programs in these institutions. One important question, then, is how different countries have incorporated general content into their VET curricula, and the extent of such education.

In almost all countries, from what I can tell, general education is incorporated into VET programs simply by requiring students to take courses or modules from academic instructors — conventional math classes, conventional classes in reading and writing and science. In some countries, including Finland, France with the bac pro, the Netherlands, Norway, and Sweden, students can get both a vocational qualification and a general diploma, each of which is independent of the other (CEDEFOP, 2004). Such practices make no effort to make sure that the academic content covers the particular competencies required in specific occupations. Even in the dual system, with its incorporation of both school-based and work-based learning, there is no necessary connection between the two: the school-based components are directed by the *Länder*, the work-based components are directed at the national level by tripartite decisions, and the two are not necessarily coordinated.

The problem with these “parallel” approaches is that the conventional school subjects do not necessarily prepare students well for the academic demands of occupations (Achtenhagen and Grubb, 2001). “School” reading often emphasises fiction, whereas reading for content on the job requires different approaches to texts and specialised vocabularies; “school” writing focuses on narrative writing, whereas writing in the workplace requires different kinds of memos and record-keeping. “School” math usually emphasises procedures and well-defined (and often simple-minded) problems, whereas real work often poses messy, ill-defined problems and non-standard two- and three-dimensional displays. Overall, “vocational knowing” involves much more situated judgments and tacit understanding, and is quite different from “school knowing” (Lindberg, 2003). Therefore simply teaching students conventional general education does not necessarily prepare them for demands on the job.

In response to this problem, some countries have experimented with efforts to integrate general and vocational education. Germany has tried some pilot projects to do this, as did Finland in the late 1990s. Australia began something similar in the “VET in Schools” program of the early 1990s, though such efforts seem to have died out; England made some efforts in this direction as part of developing “parity of esteem” between general and vocational education, but these have been short-lived. In the U.S. and Canada, there has been a more substantial effort at integration, in both secondary schools and community

colleges; these sometimes operate by general and vocational instructors collaborating and developing their own curricula, and sometimes by developing specialised curricula like “Math for Nursing”, “Math for Engineering” (intended for HVAC technicians), or “Business English” (Grubb, 1996; Grubb and Associates, 1999, Ch. 7). In general, it appears that integrated approaches, rather than parallel approaches, have not been well-developed. A useful question for a thematic review is therefore whether countries have tried integrated rather than parallel approaches, whether these have endured and become institutionalised, and if not what has prevented such approaches to general education from developing.

5.3 The special pedagogical issues of VET

There are, of course, raging debates about different pedagogical approaches, with proponents of information transfer, drill, and behaviourist approaches to teaching combating advocates for methods variously described as constructivist, student-centred, conceptual, or teaching for understanding; sometimes hybrid or “balanced” approaches have developed drawing on both traditions.¹⁰ Within vocational classrooms, these pedagogical differences emerge in “skills” approaches — where time is divided into small units and each unit is devoted to a specific sub-skill — versus “systems” approaches, where instructors teach students how larger systems work before they teach the skills necessary to work on any smaller piece of a system. However, the application of different pedagogical approaches to vocational subjects — what Shulman (1968) calls “pedagogical content knowledge” — is much less often discussed except within the German tradition, where there has been a century of developing vocational pedagogy (Gonon, 2006). However, in many ways teaching is even more difficult in vocational subjects than it is in academic subjects, and these differences should be recognised in discussions about teacher training and in discussions about the quality of VET.

One complexity, discussed in the prior section, is that general or academic subjects take unfamiliar forms within vocational subjects. A related problem is that there are many competencies or “intelligences” (Gardner, 1983) to master for most occupations, including manual and visual abilities, problem-solving and interpersonal skills as well as non-standard linguistic and mathematical abilities. In my own work (Grubb and Associates, 1999; Grubb, 2003), instructors vary in the extent to which they make explicit the teaching of non-cognitive abilities. They sometimes spend a great deal of time on particular visual or manual skills, or teaching the specific symbolic system (diagrams, maps, and specialised symbols) of their occupations, but sometimes instructors ignore non-cognitive abilities because they believe they cannot be taught, or because they do not recognise the visual, manipulative, or auditory skills required in their occupations since they seem “natural” or innate. Furthermore, while there is a vast literature on how to teach reading or math, there is much less written (again, the German tradition is an exception) about how to teach welding, or three-dimensional drafting, or computer programming at different levels, or teamwork and communications in teams. As a result many of the competencies necessary in occupations may not be adequately taught.

A third special problem is that teaching vocational subjects often takes place in a variety of settings, with different pedagogical demands — in conventional classrooms, but also in workshops, and often in work itself (either real or simulated). Workshops teach different competencies, with different pedagogical methods, than is typical in classrooms, but the pedagogy of the workshop — what kinds of projects to use, how to related the workshop to the classroom, what the relationship should be between “book” or academic learning and “hands-on” or experiential or project-based learning — is often unrecognised. And even though workshops and especially work experiences are supposed to be “hands-on” or experiential or experimental, instructors interpret “hands-on” in many different ways, and workshops can be as directive and didactic as classrooms.

¹⁰ OECD (1997) has reviewed some of these debates.

A fourth problem is that the vocational classroom includes two different “clients” — the students themselves, of course, but also employers who will (one hopes) hire the students. Sometimes the demands of the two “clients” conflict, for example where employers want firm-specific skills while the long-run interests of students is in acquiring the deeper competencies for mobility over the longer run. Instructors are sometimes caught in the middle of this conflict, and their decisions about curriculum and pedagogy may reflect some of these conflicts.

It’s difficult to know how to incorporate the analysis of vocational pedagogy into country studies. Determining pedagogy-in-use — the way instructors actually teach — requires classroom observations, which are not usually part of country studies; and actual approaches to teaching may be quite different from “espoused” pedagogy, or how instructors (or administrators or policy-makers) say they teach. Still, the pedagogy of VET teaching is an intrinsic aspect of its quality, since low-quality teaching leads to low-quality outcomes. One possibility, of course, is for country visits (or a sub-sample of country visits) to include classroom observations. A weaker alternative that would still generate real information is to query vocational instructors about their own teacher training, to see what pedagogical elements exist in a country’s preparation of vocational teachers, and to examine the professional development or in-service education of vocational instructors, to see whether pedagogical issues are included. But the pedagogical and instructional aspects of VET should not be ignored simply because they are unfamiliar.

6. QUALITY ASSURANCE MECHANISMS

In many countries, the quality of VET has come under scrutiny, and various quality assurance mechanisms have been developed to enhance quality. Countries belonging to the European Union have gone one step further in beginning to develop EU-wide systems of accreditation, as part of an overall approach to unifying education in EU. It's therefore worth determining what countries are now doing to define and improve the quality of VET. OECD has already developed an excellent paper conceptualising quality assurance (Kis, 2005), and a thematic review can draw on this framework. In particular there are at least five issues that should be included in any effort to understand quality improvement.

First, there is an obvious but exceedingly difficult question: how do different stakeholders and different countries conceive of quality? In a recent review of tertiary education in Korea, for example, there proved to be a general consensus that the expansion of higher education had caused quality to suffer, but there were more than a dozen conceptions of quality and reasons given for why quality had suffered (OECD, 2006). Similarly, Blom and Myers (2003) and Gibb (2003) have noted the wide variety of quality indicators specifically in VET: some of them describe inputs (expenditures per student, pupil/teacher ratios, full-time rather than part-time faculty, teacher training and staff development), some describe intermediate outcomes (persistence, graduation, the completion of qualifications), others cover labour market outcomes (placement in related occupations, earnings in the short-term and long-term), some describe procedures (planning mechanisms, contacts with employers, labour market forecasting, leadership patterns). Without understanding how quality is defined, and how different stakeholders understand quality, it is impossible to know what quality assurance mechanisms should accomplish.

A second basic question is what the purpose of quality assurance mechanisms are. The most obvious response is that they are intended to improve quality, where quality first needs to be defined. But often quality systems are developed for purposes of accountability, to recognise which institutions or programs are strong or weak, and then to reward the strong or punish the weak (perhaps through funding, as in ORF funding). Measures designed for accountability may not be appropriate for improvement, since they may not be detailed enough, or timely enough, or encouraging enough to lead to improvement. In quality systems driven by accountability, or in systems with punitive cultures surrounding them (as in the U.K. and the U.S.), institutions and instructors may spend more time "gaming" the system than they do on improvement.

A third issue involves the different approaches of quality assurance. These include accreditation, by a recognised accrediting agency; assessments, including a variety of both quantitative and qualitative measures of quality; and audits, including fiscal audits and outside inspections. Any of these may include self-reviews; peer reviews when peers from similar institutions examine an institution or program; and external reviews. This question might also recognise the process by which quality assurance is developed; for example, a tripartite process may be more likely to generate consensus about quality, and about the mechanisms of ascertaining quality, than are the top-down systems adopted in several of the English-speaking countries, which are more likely to lead to conflict, evasion, and efforts to "game" the system.

The data collected may include a wide variety of self-study reports, reports from site visits or inspections, and an enormous variety of performance indicators. Many of the other issues examined in this issues paper may affect the kinds of data collected, including the labour market outcomes examined in Section 8.2, the funding issues from Section 4, the quality of teaching from Section 5, and the mechanisms of articulation from Section 7. In many ways, then, the content of quality assurance mechanisms depends on many decisions made elsewhere about VET.

A final question is the perceived effectiveness of quality assurance mechanisms. It's difficult to know how to evaluate effectiveness except through perceptions, since the links between quality assurance and outcomes of any kind are so complex and indirect. But posing such questions can still provide some information about whether consensus exists on effectiveness, or whether there is so much disagreement — or disagreement among different stakeholders — that no conclusion is possible.

One obvious role for country studies (and Background Reports as well) is therefore to collect information about multiple conceptions of quality in each country; about those quality assurance mechanisms and instruments that have been developed so far, and those that are being considered; and about the potentially different perceptions among various stakeholders of quality assurance. However, such examination should not simply develop an inventory or listing of different approaches to quality assurance, as Blom and Myers (2003) have done. If we interpret quality assurance as a mechanism for expressing and furthering the other decisions and directions in a country, then the central analytic question is how consistent quality assurance mechanisms are with these other policies. Only when there is some consistency, and some agreement about conceptions of quality, can we expect quality assurance mechanisms to be truly effective.

7. ARTICULATION WITH LABOUR MARKETS

Once preparation for work has moved into educational institutions that are themselves separate from work, then the connection between schooling and work, and the school-to-work transition, necessarily becomes problematic. This is particularly an issue for VET, which unlike general or academic education is intended to prepare students for employment, and therefore is expected to develop linkages with employers (particularly if there are to be employment benefits, examined further in Section 8.2.). Indeed, one persistent fear is that VET programs will lose contact with employers, that VET will be “supply-driven” or dominated by the concerns of VET providers, rather than “demand-driven” or dominated by the needs of employers. In general, there are three ways of establishing connections between VET programs and the labour market, the subject of the next three sections: providing information to students, and making them responsible for making the links to employers; creating mechanisms of direct co-operation between VET programs and employers; and creating qualifications or credentials. Each of these can work well or badly, and the overall responsiveness of VET to the labour market depends on how well they work.

Two other issues arise persistently in considering the relations between VET and employers. One is flexibility and responsiveness, a characteristic that is particularly important in rapidly-changing economies. While discussions of flexibility are often expressed in preferences for market-like mechanisms over institutional mechanisms of control (*e.g.*, Seddon and Anderson, forthcoming), this is not the only way to think of flexibility since markets (or more properly quasi-markets) can be rigid and inflexible, and conversely institutional mechanisms can be developed to be more flexible. Section 7.4 therefore discusses some of the issues underlying flexibility and responsiveness.

Finally, while markets are supposed to equilibrate demand and supply, and institutional mechanisms (like employer surveys) are supposed to help institutions mimic market-like equilibria, both markets and institutional mechanisms may generate imbalances of demand and supply — either shortage of skills, or a surplus of individuals in certain occupations, sometimes labelled over-education. Given the concerns in many countries and in the rhetoric of the Education Gospel about skill shortages, together with evidence in some countries about *over*-education, it’s worth disentangling the conditions under which demand and supply are likely to be out of balance.

7.1 Information to students: Career-oriented vocational information and guidance

When schools, government, and private agencies provide prospective students with career-related information and guidance (CI&G), one purpose is to enable them to make decisions about which occupations they want to enter *and* which programs prepare them for these occupations. With such information, students can therefore avoid occupations with declining demand, or poor wages and working conditions, or low status, and they can enter programs with the best prospects of getting them into desirable employment both in the short-run and the long run. The power of these particular articulation mechanisms therefore depends on the quality of CI&G.

OECD (2004) has already examined career-oriented guidance. In brief, it determined that, while a variety of high-quality practices can be found in different countries, most countries have paid “minimal attention” to providing adequate resources, ensuring a diversity of services, embedding career self-management skills and information into initial and further education, improving the information base for policy, developing quality assurance mechanisms, and developing leadership in CI&G. Overall, the report

suggests that this particular mechanism has not been particularly successful in linking students with the labour market.

There's no point in replicating this study, of course. What might be worth examining is what changes have taken place in various countries since 2002, specifically within VET programs rather than in broader educational institutions — that is, whether there is any movement to improve CI&G, or whether it remains relatively marginalised. If CI&G remains relatively undeveloped, then both the flexibility of VET systems and their ability to equilibrate demand and supply may be limited.

7.2 Mechanisms of direct co-operation

A second approach to articulation is to create mechanisms where VET providers and employers co-operate with one another, presumably to shape the content of VET programs, determine the numbers of trained individuals necessary, develop assessments, create qualifications, and otherwise coordinate VET and the labour market. The most thorough of these are probably the tripartite planning mechanisms of countries with the dual system, as well as other European countries with strong unions, employer associations, and government involvement; tripartite planning also incorporates the interests of students through the representation of labour. In other countries a variety of advisory committees, decision-making councils that include employer representatives, and a vast number of formal and informal co-operative relationships play similar roles.

Some governments have devoted substantial attention to improving the quality and number of these connections. Perhaps the best example is England, where there has been an endless (and relatively futile) series of efforts to create employer advisory councils.¹¹ Similar failures have occurred in the U.S., where efforts to create National Skills Boards with employer participation were fruitless and where large numbers of education-business partnerships accomplish very little except symbolic meetings, though there have been strong working relationships in cases where education providers and employers have provided joint training. The lessons from these successes and failures in countries without a history of tripartite planning seem to be that governments cannot legislate co-operation, that co-operation requires appropriate cultures to develop (usually over a long period of time) within both educational institutions and among employers, and that mutually advantageous projects — like joint training — may facilitate co-operation.

The question for an OECD review of VET is to determine what kinds of co-operative relationships exist, particularly in countries without tripartite planning where the nature and durability of such relationships is difficult to uncover. The problem is that VET providers can often name many such relationships, but their quality and purpose are more difficult to determine, and may require information from employers. One possibility would be for country reviews to sample some of these forms of co-operation, and to interview representative businesses as well as VET providers, to see both sides of this relationship.¹²

¹¹ The list is quite fantastic: Industrial Training Boards were superseded by Non-Statutory Training Organisations (NSTOs), followed by Industry Training Organisations (ITOs), then National Training Organisations (NTOs), then Sector Skills Councils (SSCs), all within a twenty-year period; Training and Enterprise Councils (TECs) with considerable employer participation, were abolished in favour of Training and Enterprise Councils (TECs), which had considerable employer participation, were abolished in favour of Learning and Skills Councils and Regional Development Agencies, where support from employers is particularly fragile. See Grubb (2004) for some of this history, and see Grubb and Lazerson (2004, Ch. 7) for the U.S. case.

¹² See, for example, the methodology in Grubb (1996, Ch. 6), where VET providers and employers in four labor markets were interviewed to determine the strengths of these connections.

7.3 Credentials and qualifications

Many countries spend a great deal of time and energy creating qualifications and credentials, and recently the idea of qualifications frameworks — that is, of qualifications described by a single set of criteria, on a single hierarchy, defined by learning outcomes and standardised units or credits, and classified according to a comprehensive set of occupations — have become popular (Young, 2004; Raffe, 2005), including the idea of a Europe-wide qualifications framework.¹³ Some countries need to update qualifications to keep pace with changes in employment, while others — England and Australia are good examples — continue to elaborate qualifications as ways of reforming the VET system, or of persuading “reluctant learners” to stay in school by the promise of future rewards.

However, in all this vast amount of activity, there is almost never any consideration of the “theory” of qualifications — of what qualifications accomplish, other than certifying an individual as qualified in some sense — and how they accomplish it.¹⁴ OECD (2002) has developed one definition of a qualifications *system*:

First, consistent with the definition of qualifications, it includes the arrangements for the recognition of learning. Second it includes the arrangements that link qualifications and destinations. These are the arrangements that make it a “system”. These arrangements will typically include qualifications entry rules and systems, credit systems, qualifications pathways and progression routes, and qualifications and standards framework.

But this definition clarifies that, while virtually all countries create qualifications in the sense of recognising learning (though by many different methods), in many cases these are not qualifications *systems* since they don’t link qualifications to destinations, particularly subsequent employment, in any way.

In my analysis, an educational qualification works by creating a uniform set of expectations for all participants in VET: employers can specify the competencies they need; education and training programs can use the competencies embedded in qualifications to shape their curricula and motivate students; and students know what competencies they must master to become employable. This is the positive sense of credentials: they are market-making devices that coordinate the actions of employers, providers, and students, and thereby link VET to the labour market. Within this conception, qualifications do more than certify an individual as qualified; they should also reflect the demands of employers, affect the offerings of providers, and influence what students do.

But when any of these three elements is missing, the qualifications may fail in one way or another. If employers fail to use credentials in their hiring, instead preferring experience or other measures of ability, then the credential is superfluous. If the competencies taught by providers are not those required on the job, then employers will not hire VET graduates, and students will be misled about their employment prospects; this is often the case in “supply-driven” VET, where providers determine the content of programs regardless of employer needs. If students are unaware of the requirements for qualifications, then the expectations of students and of providers will be inconsistent. In all these cases “credentialism” takes

¹³ Raffe (2005) clarifies how vague and contradictory the idea of a qualifications framework can be. When this becomes a framework for qualifications that themselves are under-conceptualised, it’s difficult to know what it could possibly accomplish.

¹⁴ See Grubb (2004) for my search for any coherent theory of qualifications in England, certain one of the most qualifications-obsessed countries in the world. In the recent literature on qualifications frameworks, there are usually definitions of what a framework is but no mention of what a qualification is supposed to accomplish.

on a negative sense, of credentials or qualifications that are unnecessary or misleading (Collins, 1979). In this conception, a qualification may fail utterly to coordinate link education and the labour market, and this problem has surfaced in many countries — in England where the efforts to develop credential-driven policies have failed to respect employer requirements and failed to attract students; in the U.S. where the highly informal credentials created by education institutions often ignore the needs of employers; in Australia where an overly-narrow conception of skill means that students are often unprepared for the demands of highly-skilled work.

To work well, qualifications require three elements: *i*) the articulation of competencies or standards; *ii*) a method of assessing these competencies; and *iii*) mechanisms for policing the process. Each is complex and potentially controversial, and may range from highly informal to formal (particularly in German and Austrian systems). The three are probably best developed in tripartite planning that incorporates the perspectives of employers, providers, and students, providing reasonable assurance that qualifications can operate to make the three groups of stakeholders consistent with one another. But if one group is missing from the negotiation over qualifications — if employers and students are missing, as in England, or employers' participation through advisory committees is weak, as in the U.S. — then qualifications may not serve their market-making role. Indeed, these are cases where qualifications may be criticised as supply-driven. It is difficult to know how credential-driven reforms — for example, the current efforts of the English government to reduce school dropouts by creating a new qualification, the specialist diploma — can work unless the qualification is in effect changing the actions of employers, students, and providers. Similarly, qualifications systems can certainly make education offerings more uniform and transparent if government forces public providers to use new qualifications systems; but if they do not include the perspectives of employers, they fail to articulate providers with employers.

This conceptual perspective leads not only to questions about what qualifications each country has created — again a conventional element in descriptions of VET systems — but also to questions about how qualifications are constructed, who participates in their development, whether they correctly reflect the perspectives of all stakeholders, and finally whether they are used by all stakeholders in the ways this conception indicates. Returning to the formulation of Argyris and Schön, one of the analytic problems in assessing VET qualifications is to determine the theory-in-use underlying qualifications, and then to compare it to both the espoused theory and to the conceptualisation presented here.

Questions about the roles of qualifications are linked to issues of their economic effects (in Section 8.2). Qualifications are supposed to signal particular abilities, or certain kinds of human capital; they should lead to higher earnings if these abilities are rewarded in the marketplace. If there are no earnings or employment premiums for qualifications, as prove to be true in certain countries,¹⁵ one of several possible explanations is that qualifications are improperly constructed — and particularly that employers do not use them in hiring decisions. Therefore the analysis of employment effects of VET and of qualifications should be linked.

These questions need to be asked about newly-created qualifications as well as those that have existed for some time. These include the new qualifications developed in countries like England that try (and fail) to drive institutional development through qualifications. In other countries, new qualifications include ones developed by specific firms or consortia of firms, particularly in the IT field (Jacobs and Grubb, 2006; Weiss et al., 2005); examples include certification by national associations of automotive sectors, by specific automobile manufacturers like Toyota and Honda, and the development of firm-specific

¹⁵ For example, one-year certificates in the U.S. usually have little economic value (Grubb, 2002), and in England NVQs and other lower-level qualifications have zero or even negative returns (Grubb, 2004). Whether comparable results can be derived for other countries is the subject of Section 8.2.

certification by Microsoft and Novell. If such certificates signal employment demand by specific firms, then presumably VET providers are motivated to offer training programs, and students are motivated to take these programs to enhance their employment. But if employer demand wanes — as happened in IT after 2000 in the U.S. — then the attractiveness of such qualifications vanishes; and the long-run interests of students may not be well-represented in qualifications shaped by short-run employer needs. Similarly, a CEDEFOP survey of IT skills certification revealed that most respondents (80%) felt that there were too many e-skills certification systems with too much emphasis on vendor-specific certification, and they felt that vendor-independent certification should be more important — in effect what has happened in the U.S. when community colleges have embedded firm-specific qualifications in more general programs of IT. So it's important to apply the same analysis to these employer-generated qualifications as to government-generated qualifications.

In addition, there has been substantial interest in many countries in recognition of prior learning (RPL), or granting qualifications based on informal learning, life experiences, work experience, and the like (see Dyson and Keating, 2005, for practices in five countries). If these are not recognised by employers, then there is little chance that they can work as qualifications should; if they do not have additional value in the labour market, then they may provide individuals some measure of satisfaction or self-esteem, but no economic incentives to acquire these qualifications. These are empirical issues on which there is very little evidence; Dyson and Keating (2005) conclude that “there are no usable data or credible studies that estimate the impact of RPL on learners and their subsequent capacities to gain employment and continue into formal learning”, though case studies are generally positive and indicate increases in self-esteem. The Background Reports and visits in countries that have tried to develop RPL might attempt to determine what evidence there is about its roles in labour markets.

7.4 Flexibility and the market responsiveness of VET

One of the characteristics of well-functioning markets is that supply responds to demand — or, in the VET setting, that VET providers respond flexibly and relatively quickly to shifting demand, as employers change the kinds of occupations and skills they need. One of the consistent complaints has contrasted supply-side VET — where education provided is determined by providers, relatively unresponsive to employer demand — with demand-side VET, and virtually everyone agrees that demand-side VET should be the goal (just as conventional markets in goods and services respond to consumer demand). Often, flexibility and responsiveness are thought to be a function of market-like mechanisms (Seddon and Anderson, forthcoming), so these considerations lead to calls for more market-like mechanisms like student vouchers, outcome-based funding, and competition among providers.

However, the issues of flexibility and responsiveness are more complex than simply a choice between market-like versus institutional mechanisms. Outcome-based funding and vouchers have their own problems, discussed in Sections 4.5 and 4.6 above, and may not lead to greater responsiveness unless students are well-informed and outcomes are appropriately measured. Competition among providers may generate a great deal of low-quality provision, as in private training providers in the U.S., as well as unnecessary duplication. Sometimes markets don't work quickly or efficiently; for example, in cases where VET is of long duration, cobweb cycles may cause providers to over-shoot or undershoot demand. Furthermore, the signalling mechanisms in the markets for VET are unclear, since there is no clear equivalent of a simple market price affecting both demand and supply: the “prices” to employers of higher wages, to students of tuition and opportunity costs versus the benefits of additional education and training, and to providers of marginal benefits and costs of new enrolment are all incommensurate.

Finally, education markets appear to work best when sophisticated consumers face what we might call “strong” providers — those that are relatively stable, sure of their purposes, technically competent, and committed as much to the “product” (the quality of education) they provide as to profit. When

unsophisticated consumers face suppliers who are "weak" — for example, new entrants, or providers committed more to profit than their product, sometimes ruthless and exploitive — then fraud and low quality may result, as happens with many private trade schools in the U.S. And when suppliers do not have a strong sense of their purpose — in the case of schools, of their *educational* purposes — then it is all too easy to see economic rationales replace educational and pedagogical issues.¹⁶

Conversely, there are various mechanisms that can lead public institutions to be more flexible and responsive. These include employer committees; employer surveys that forecast the direction of labour market demand; streamlined decision-making procedures (rather than the lengthy processes of "academic" institutions) to make institutions more flexible; the creation of flexible schedules for students, rather than adhering to conventional academic schedule; perhaps qualifications that are changed relatively quickly in response to changing workplace conditions. This implies that one way to attain flexibility and responsiveness is not to move away from institutional mechanisms toward market-like mechanisms, but instead to use institutional mechanisms to create "strong" institutions from which well-informed consumers can rationally choose — a "both-and" rather than an "either-or" solution.

The challenge for an OECD review of VET is therefore first to ascertain whether countries appear to have problems responding to changing conditions — a common problem articulated in countries with the dual system, as well as countries like Australia with complaints about skill shortages. Then it is appropriate to ascertain what mechanisms different countries have adopted to make their VET systems more flexible and responsive, and how well they are working — where these include mechanisms of institutional development as well as market-like mechanisms.

7.5 The equilibrium of demand and supply: Skill shortages and over-education

If markets in education work as they should, then there should be no shortages or surpluses of skilled labour. However, there are periodic outcries in various countries about shortages of particular kinds of skilled workers — craft workers in Australia, nurses in the U.S., middle-skilled workers in Spain and Portugal. At a broader level, advocates of the Education Gospel have complained about shortages of workers with "higher-order" or "key" or "core" skills, implying that there are problems among education providers that must be remedied with government reforms. On the other hand, there is a constant concern with *over*-education (more precisely, over-schooling), educational inflation, and rampant credentialism, not only among researchers¹⁷ but also among those (including finance ministers) who fear that the expansion of education, and especially expensive post-secondary education, has gotten out of hand. It's possible, of course, for both skill shortages and over-education to exist at the same time in an economy, particularly if there are some attractive and high-status occupations susceptible to over-supply while other, low-status or particularly stressful occupations are subject to skill shortages — for example, tourist workers in Austria, urban schoolteachers in the U.S., and craft workers for remote areas of Australia.

It's worth being careful about claims of skill shortages. The normal response of markets in cases of shortages is that prices (or wages) increase, supply increases in response, and equilibrium is restored. So the question in the case of alleged shortages is what prevents the normal operation of market mechanisms. Sometimes (as in nursing, or teaching in urban schools) working conditions may be so difficult that additional wages cannot compensate; in this case the appropriate solution is to improve working

¹⁶ There have of course been long debates about the effectiveness of market-like mechanisms in education. For three examples using empirical results to cast doubt on the efficiency of market-like mechanisms, see Fiske and Ladd (2000) on New Zealand, Finkelstein and Grubb (2000) on Great Britain, and Anderson (2005) on Australia.

¹⁷ See, for example, the special issue of the *Economics of Education Review* on over-education, Vol. 19 (2000), with evidence from the U.S. and Germany; and the evidence from England in Grubb (2004).

conditions, not simply to increase supply in the hopes that some of the surplus workers are then willing to take poor-quality jobs. In some cases, employers want to avoid paying higher wages that might reduce their profits, and they pressure governments to increase supply when their demand increases so that they need not increase wages;¹⁸ but it isn't clear why government should increase supply simply to benefit employers. In still other cases, capacity constraints on public providers may limit the numbers of students they can prepare, and prevent them from responding to wage signals or other evidence of increasing demand; then some intervention to increase supply may be warranted. But an analysis of the reasons for supply "shortages" is necessary before concluding that the VET system is to blame, and before deciding that increasing the size of VET programs is the appropriate solution. Of course, neither VET providers or employers — or students, for that matter — are normally willing to deny that shortages exist, since they all benefit from VET expansion, so it is necessary for an independent group to investigate the claims of shortages.

Similarly, it isn't always clear when over-education exists, or why, or what to do about it. Some measures of over-education include too many trained individuals unable to find jobs in the occupations for which they are prepared; downward occupational mobility, where individuals preparing for certain occupations accept related but lower-level employment (sometimes referred to as under-employment); reductions in the earnings of particular occupations; or comparisons of occupational requirements with the educational attainments of those in the occupation. Some of these measures — for example, the proportion of individuals finding employment in the occupation for which they have been prepared, or earnings levels — may be included in assessment and accountability systems, though others are normally found in academic research. But country studies can at least ask if there are any of these signs of over-education.

A more pervasive problem of over-education extends to general education. In some countries where the Education Gospel is alive and well, occupational forecasts clarify that the growth of occupations demanding post-secondary education is relatively slow and steady, and therefore the alarms about needing to increase the supply of well-educated workers is unwarranted. (This is true, for example, in the U.S. and England.) It would therefore be worth presenting any occupational forecasts available in each Background Report, to see whether the claims of increasing demands for educated workers, and therefore forecasts of impending shortages, are in fact true.

¹⁸ From basic economics, when the demand *function* shifts outward, employers may pressure governments to shift the supply *function* outwards, restoring equilibrium at near the old price while increasing the numbers of skilled workers.

8. LABOUR MARKET OUTCOMES

VET programs by their nature are intended to prepare individuals for employment, and so employment outcomes are usually accepted as measures of their effectiveness. In this section I present several issues in analysing labour market outcomes.

8.1 The transition from school/VET to work

One dimension of the separation of schooling from employment is that the transition between the two may not be quick or smooth. In one approach, associated more with the dual system, many students move smoothly from VET to employment, often with the employer who has provided apprenticeships and work placements. In the polar opposite approach, often associated with market-oriented VET systems, there are few institutional mechanisms to smooth the transition — for example, job placement or labour exchange services, education-employer co-operation, or work placements — and so students move around several low-skilled jobs before they finally find one consistent with their VET preparation. The period of search may be dangerous since VET students may prolong their time in unskilled work, may see their skills become obsolete, or may simply not make the transition into related employment. Thus the speed and the seamlessness of the transition from VET to employment is one of the possible outcomes of different VET systems.

OECD has previously examined the transition to working life (OECD, 2000), and Ryan (2001) has written a thorough review of the literature, particularly in economics. The OECD review of 14 countries concluded that many different national arrangements can result in successful transitions to working life, not simply single models like apprenticeship. Instead, coherent national policies can draw on several crucial elements: a healthy economy and labour market, well-organised pathways from initial education to work and further study, opportunities to combine study and workplace experience, safety nets for those at risk, effective information and guidance systems, and policy processes involving both governments and other stakeholders. Noting again the deep differences among countries in the school-to-work transition, Ryan found extensive evidence of policy failures (despite some successes) in the seven countries he examined, particularly in short-term labour market programs, and pointed out the distinction between programs, which come and go, and institutions, which develop, adapt, and can improve.

As in the case of career information and guidance, there is no point in replicating these efforts. However, changes in efforts to smooth the transition from school to work could be examined, to see what directions countries are taking in this particular aspect of VET.

8.2 The individual employment benefits of VET

The employment benefits often used to judge the effectiveness and quality of VET are many: employment (or unemployment) rates; hourly wages, often assumed to be measures of productivity; and annual earnings are the most common. Sometimes occupational status is an outcome, particularly since many VET programs are intended to move individuals into skilled work, or semi-professional work, and out of unskilled work. Less often one might see measures of working conditions or job satisfaction.

A first question, then, is what measures of employment benefits countries have collected. Sometimes data on average wages or earnings (or other outcomes) are available, but it would be far preferable, in the

case of earnings, to have Mincerian rates of return¹⁹ as well as internal rates of return, which compare employment benefits with costs since the patterns of these two different rates of return may differ. In the U.S., for example, Mincerian rates of return are lower for community college programs than for university programs, but it's possible for the internal rates of return to community colleges to be higher because their direct and opportunity costs are lower. Ideally, employment benefits should be collected for men separate from women, for individuals with different qualifications, for the graduates of different institutions (*e.g.*, for students from vocational lycées in France compared to those from STSs and IUTs), and for different occupations, since the economic benefits may vary substantially among occupations. These measures may be difficult to find, particularly in countries without student data systems; they are, for example, quite rare in the conventional descriptions of VET systems from Eurydice or CEDEFOP. Furthermore, they are often the subject of considerable debate, especially within the community of researchers. One responsibility of each Background Report is therefore to present whatever data are available on employment outcomes, to summarise the methodologies of developing such data, and to present whatever debates exist.

The second question is what can be concluded from such data, since there are many difficulties in estimating the employment effects of VET programs. One involves selection effects.²⁰ If VET programs are “chosen” by students excluded from higher-status academic programs, their students may be of lower ability or motivation. Conversely, IUTs are of higher status and quality than universities, so their students may be of higher ability or motivation. A second involves the time that data are collected after completing a program: data on earnings directly after completion may fail to capture the benefit of VET, since age-earnings profiles usually diverge and show the advantages of more education only after a number of years.²¹

Third, the employment effects of VET may differ by region, and may be substantially higher in high-income or growing regions than in stagnant areas.

Finally, a much-overlooked consequence of VET programs, and a factor that influences the employment effects, is the rate of finding *related* employment. Because VET programs are generally more job-specific than is general education, the employment benefits should be higher for individuals who find related employment than for individuals whose employment is unrelated to their field of preparation. For the U.S., Rumberger and Daymont (1984) have confirmed this pattern for secondary vocational education, and I have confirmed it for occupational or professional education in community colleges and universities (Grubb, 1997). Not only should data on related placement rates be collected as a measure of the quality of VET programs, therefore, but the influence of this variable on employment benefits should ideally be examined as well.

The difficulties in estimating precisely the employment effects of VET are substantial, and many countries may lack the data to carry out very sophisticated analyses of employment effects. Paul Ryan and I (1999) have argued that what is important is not that countries reach “perfection” in their evaluation of VET, but rather than they continue improving their data and analytic methods so that they move closer to analyses that are free of the most obvious limitations presented here. From this perspective, country visits should concentrate on determining not only what the current stage of evaluation is (the role of the

¹⁹ Mincerian rates of return are the coefficients b in the regression $\ln Y = a + b \text{Ed} + \dots + e$, where Y is annual earnings, Ed is years or type of schooling, many other independent variables may be included in the regression, and e is an error term.

²⁰ There are also problems with *self*-selection effects, but these have proved to be extremely difficult to avoid.

²¹ There's another problem for short-term job training programs: benefits may decay over time because these programs may have short-term employment effects without getting individuals into higher-quality occupations with employment benefits over the longer run; see Friedlander and Burtless (1995) for the U.S. In general, then, it is desirable to collect data on employment effects over a period of time.

Background Report), but also what improvements in data collection and analysis countries are contemplating.

8.3 The macroeconomic benefits of VET: Education and economic growth

The public rhetoric surrounding education and VET often stresses the role of human capital in contributing to overall economic growth. For example, several European countries with high unemployment rates hope that VET reform can increase productivity and growth and reduce unemployment; in the U.S. it has become almost traditional to blame the education system in periods of low growth like the early 1980s. Clarifying the role of education, and VET specifically, in economic growth is a complex task, and here I will do little more than cast doubt on the conventional wisdom. However, it's pointless to continue relying on growth-related arguments for VET if indeed the causal links are weak; indeed, it's possible that the search for education solutions obscures the development of policies that might contribute more to productivity, growth, and expansion.

The conventional wisdom, embedded in the faith of the Education Gospel, is that human capital is one of the principal contributors to economic growth. This belief is usually supported by evidence of so-called macro approaches to growth, including the decomposition of growth rates into various components and cross-country regression approaches. These efforts, which are necessarily restricted to those factors that can be quantified, have generally supported the position that education has substantially contributed to economic growth in the post-World War II period.

However, these efforts depend on a number of questionable assumptions, particularly the idea that the earnings differences among well-educated and less-educated workers reflect productivity differences (rather than other causes) that will stay the same when levels of education increase over time (Grubb and Lazerson, Ch. 6, Wolf, 2002 Ch. 2 and 2004; Krueger and Lindahl, 2001). These results calculate the increase in the *quantity* of education, assuming that *quality* has stayed the same, and they assume that education enhances growth rather than growth increasing the amount (or quality) of education. Finally, macro approaches have focused on technology and education, but they have not calculated the contributions of government policies, business practices, shifts in cultural norms like the tendency to work harder, or anything else that is unmeasured or unmeasurable.

A different tactic has been a micro-economic approach, examining a variety of factors (Harberger, 1998; Topel, 1999). For example, Landau, Taylor, and Wright (1996) explain the growth of industrialised societies in terms of national governance; the socio-political climate including its stability; macro-economic policies (fiscal, monetary, trade, and tax policies); the institutional settings including financial, legal, and corporate institutions; structural and supportive policies including education, labour relations, science and technology policy; and regulatory and environmental policies. In addition, there may be factors specific to particular industries that help explain their growth or stagnation, as well as company-specific issues. In such a framework, education is only one of dozens of influences on growth, and its influence may be contingent on other policies. Indeed, when we examine recent periods of decline and growth in the U.S. and Great Britain, a number of factors other than education explain these patterns (Grubb and Lazerson, 2004; Wolf, 2002).

The implication is that it is worth being more careful about claims related to economic growth. The finding that cross-section differences in earnings are associated with education — reviewed in the previous section — does not automatically mean that increases in education over time will lead to increased productivity and growth. Furthermore, VET often operates within particular niches in the economy — specific sectors and occupations, sometimes specific regions — where the contributions of VET may be either smaller than macro models predict, because of problems in the many other factors affecting growth, or potentially greater, if VET is part of a complex of related factors stimulating growth in that niche. This

may be beyond the scope of a thematic review, but it is worth being sceptical of claims related to economic growth, as part of understanding the claims for VET.

8.4 Globalisation and VET

As a recent OECD Policy Brief points out (OECD, 2005), fears that globalisation will lead to job losses, lower wages, and other dislocations in labour markets are pervasive. The responses have varied widely, but one approach has been to call on VET in several different ways. One potential question for a thematic review, then, is to disentangle what the effects of globalisation on VET are, how VET systems have changed, and whether these changes are overall beneficial or not.

One question in many countries is whether it is possible to use Active Labour Market Policies (ALMP), or short-term job training, to help dislocated workers make transitions to other employment. This raises the question of the effectiveness of such training, as well as its integration with the education system (Section 2.6. above). However, since this is largely a question of re-training or remedial training rather than initial preparation for the workforce, I will not consider this here.

The EU agenda for economic integration is another manifestation of globalisation. The EU and EU organisations like CEDEFOP assume that integration — including a greater uniformity of educational systems outlined in the Bologna process, and somewhat similar co-operation in the Copenhagen declaration — will create a unified Europe with greater economic power and internal flexibility. A number of supporting practices have been proposed like a European Qualifications Framework and a networked European university for VET and HRD (human resource development) professionals (Raffe, 2005; Grollman, Rauner, and Kruse, 2001). But the underlying assumption about the power of an integrated region is often assumed rather than tested, and the value of making qualifications and institutional types equivalent is unclear when only 2% of the EU labour force lives in a country other than their own (CEDEFOP, 2006). Similarly, the costs of homogenising education — as has happened when countries have tried to adapt their existing systems to the Bologna model — is also unconsidered, particularly when countries vary so much in their existing systems, and). The potential problems of homogenisation are perhaps even more serious in the case of VET, which varies even more countries.

In other cases, countries are trying to orient parts of VET — like state colleges in Norway, polytechnics in Finland, and colleges in Korea — to attract greater numbers of foreign students, and it isn't clear how reasonable these expectations are. Finally, the claims about shortages of higher-order skills, or “key” or “core” skills, often rest on assumptions that globalisation is causing a shift away from manufacturing and toward occupations associated with the Knowledge Revolution. The extent to which this is true varies among countries, and sometimes this claim is another exaggeration of the Education Gospel.

A thematic review could therefore examine the manifestations of globalisation in different countries, to see which specific issues are important and how countries have responded. In the process, it would be useful to obtain better information on the magnitude of globalisation's effects, rather than continuing to rely on rhetoric.

9. CURRENT CONCERNS AND THE FUTURE OF VET

Vocational education and training are among the educational practices that seem always to be under debate and discussion, with widespread dissatisfaction and even a sense of “crisis” in some countries. One reason may be that so many different hopes have been pinned to VET, including those outlined in Section 1 above: the elimination of skill shortages of several kinds, the transition into the Knowledge Economy, responsiveness to rapidly-changing economic conditions, the promotion of economic growth and competitiveness, the elimination of social exclusion and inequity, the elimination of the academic-vocational divide and the status differentials among /integrating general and vocational education. It’s hard to imagine that any educational practices — especially practices that, in some countries, are given second-class status and starved for resources — can resolve all these different issues. If VET cannot live up to the high expectations set for it, then it must disappoint some constituencies, and therefore its reform will be constantly under discussion.

The question is whether an OECD thematic review can, by examining practices in a variety of countries, point the way out of this dilemma. One purpose of such a review is to clarify the variety of practices that now exist, with some effort to judge which ones work well and which do not. A corollary is then to be clear about the requirements for certain “best practices” to be developed in other countries, — lest, for example, countries continue to try emulating the dual system without the kinds of institutional structures necessary to encourage work-based learning. A third purpose is to ask insistently why particular approaches to VET should work, to determine what theories of action underlie different countries’ practices, and then to see whether these theories of action are reasonable; for example, some countries have embraced goals for VET — like using it to reduce school leaving without confronting the low status and poor earnings associated with low-quality VET — than cannot possibly be met.

My own view is that an OECD review could make the greatest contribution by concentrating on a few issues that seem to come up persistently, in a large number of countries. The list of these crucial topics would surely vary from person to person, and of course from country to country, but my own list includes the following five issues:

- The changing institutional composition of VET: This includes the shift from secondary education into a wide variety of postsecondary institutions, and the issues of different levels of VET and of the labour market explored in Section 3 above.
- The role of VET in social exclusion and equity: The efforts to improve the status of VET are important, since it’s impossible to enhance equity through VET if it remains of second-class status, but sometimes these efforts neglect the realities of status and pay in labour markets. Similarly, how policy-makers can persuade school leavers to remain in school surely requires enhancing the attractiveness of schooling in all dimensions, not simply creating new and untested qualifications or resurrecting traditional vocational education. Clarifying the conditions under which VET reforms can reduce social exclusion and enhance equity is therefore a worthwhile question.
- The roles of apprenticeships and work-based learning versus school-based instruction: Many countries have tried to emulate the dual system, and there are sound pedagogical reasons for combining school-based and work-based learning, but — especially in a period when even countries with the dual system are facing shortages of internships — it is important to confront the institutional practices necessary to generate enough work-based positions, and to integrate these with school-based learning.

- The exaggerations of the Education Gospel: The rhetoric about education in general, and VET in particular, contributing to the economic development and competitiveness of countries is often exaggerated. One form has been to over-estimate changes in employment, which are often slower than advocates realise. Another has been to exaggerate the changes associated with the Knowledge Economy. Still another has been to over-state the role of education in economic growth; particularly for highly developed countries, education is only one of many factors influencing growth and competitiveness. And although it is clear that the international economy is more open than it used to be, some of the fears and hopes for globalisation need to be carefully examined. A country review could make a substantial contribution by testing the claims for VET in various countries, and see where VET might benefit from reducing the expectations of what it can accomplish.

In the end, the value of a thematic review is that it can replace the rhetoric surrounding education policy with firmer evidence from many countries. It can also examine existing practices and the theories of action underlying them, independently of the political skirmishes that sometimes make it difficult to do so for those within a country.

10. METHODOLOGICAL IMPLICATIONS FOR A THEMATIC REVIEW AND COUNTRY STUDIES

In most thematic reviews, experts in each country studies prepare Background Reports, examining various topics specified by OECD. Throughout this issue paper, I have outlined a series of topics that might be included in such Background Reports, including not just the facts and figures associated with each country, but also whatever attempts there have been to answer more analytic questions.

Then a panel of experts visits each country to interview education policy-makers, administrators in educational institutions, and educational researchers to learn about current patterns and issues. Usually, these visits are adequate to develop a surprisingly complete view of one aspect of a country's educational practices. However, VET is somewhat more complex than general or academic education because it *necessarily* involves the interests of employers, and because many of the issues I have posed cannot be addressed by educators. In particular:

- Ascertaining the nature of education-business partnerships, the nature of skill shortages, and the general relationships between VET and labour markets will require interviewing employers and their representatives.
- Examining the complete financing of VET will require interviewing officials from ministries of finance, commerce ministries, and social welfare ministries, since the subsidies from tax expenditures, from employers, and from welfare state policies are not typically known by education officials.
- Understanding pedagogical issues in VET will require observing in classrooms and workshops, or interviewing researchers who have carried out such studies, but it cannot rely on the statements of administrators.
- The data necessary to understand the labour market effects outlined in Section 8.2 may be generated by education and labour ministries, but the appropriate analyses of these data are more likely to be carried out by researchers. Such research could be incorporated into Background Reports, and then independently examined by members of country teams with statistical expertise.

So VET proves to be somewhat more complex and multi-faceted than some other educational practices, and the obvious implication is that country visits should include a wider variety of respondents.

REFERENCES

- Achtenhagen, F., & Grubb, W. N. (2001). Vocational and occupational education: Pedagogical complexity, institutional indifference. In V. Richardson (Ed.), *Handbook of Research on Teaching* (4th ed., pp. 176 - 206). Washington, DC: American Educational Research Association.
- Anderson, D. (2005). *Trading places: The impact and outcomes of market reform in vocational education and training*. Adelaide: NCVER.
- Argyris, C., & Schön, D. (1978). *Organizational learning: A theory of action perspective*. Reading, MA: Addison-Wesley .
- Australian Education Union (2005). *Australian Technical Colleges: Not the solution to the skills shortage*. Southbank: AEU.
- Bauer, W., and Przygodda, K. (2003). New learning conception within the German system of vocational education and training. *European Educational Research Journal* 2(1): 22 – 40.
- Becker, G. (1993; original 1964). *Human capital: A theoretical and empirical analysis with special reference to education*(3rd ed.). Chicago: University of Chicago Press.
- Blom, K., and Meyers, D. (2003). *Quality indicators in vocational education: International perspectives*. Adelaide: National Centre for Research on Vocational Education.
- Bornemann, S. (2005). *Levy-grant schemes in vocational education*. Munich: Graduate School of Economics.
- CEDEFOP (2006). *Developments in vocational education and training (VET) at EU-level, in the member states and in acceding and candidate countries, July 2005 to March 2006*. Thessaloniki: CEDEFOP.
- Cuban, L. (1990, January). Reforming again, again, and again. *Educational Researcher*, 19(1):3 - 13.
- Dyson, C., and Keating, J. (2005). *Recognition of prior learning: Policy and practices for skills learned at work*. Skills Working Paper No. 21. Geneva: International Labour Office.
- Felstead, A. (1998). *Output-related funding in vocational education and training: A discussion paper and case studies*. Thessaloniki: CEDEFOP.
- Fiske, E., and Ladd, H. (2000). *When School Compete: A Cautionary Tale*. Washington D.C.: Brookings Institution.
- Friedlander, D., & Burtless, G. (1995). *Five Years After: The long-term effects of welfare-to-work programs*. New York: Russell Sage Foundation.
- Gallagher, M. (2003). *Higher education financing in Australia*. Presentation to the Education Committee of the OECD.

- Gibb, J. (2003). What impact is implementing a quality system having on vocational education and training classroom? Adelaide: National Centre for Research on Vocational Education.
- Gonon, P. (2006). A short history of German vocational pedagogy: From idealistic classics to “realistic” research. In L. Mjelde and R. Daly, eds., *Working Knowledge in a Globalizing World*. Bern: Peter Lang.
- Grollman, P., Rauner, F., and Kruse, W. (2001). *Scenarios and Strategies for Vocational Education and Training in Germany*. CEDEFOP and ETF. Amsterdam: Max Grootte Expert Center.
- Grubb, W.N. (1978). The phoenix of vocationalism: Hope deferred is hope denied. *New Directions in Education and Work*, Spring.
- Grubb, W. N. (1996a). *Learning to work: The case for reintegrating job training and education*. New York: Russell Sage.
- Grubb, W. N. (1996b). *Working in the middle: Strengthening education and training for the mid-skilled labor force*. San Francisco: Jossey-Bass.
- Grubb, W. N. (1997). The returns to education in the sub-baccalaureate labor market, 1984-1990. *Economics of Education Review*, 16(3):231-246.
- Grubb, W.N. (2003). The richness of occupational instruction: The paradox in U.S. community colleges. In F. Achtenhagen and E. John, eds., *Political Perspectives on Vocational and Occupational Education and Training*. Bielefeld: Bertelsman Verlag.
- Grubb, W.N. (2004). The Anglo-American approach to vocationalism: The economic roles of education in England. Research Paper 52. Oxford and Warwick Universities: Centre on Skills, Knowledge, and Organizational Performance (SKOPE).
- Grubb, W. N., & Associates (1999). *Honored but invisible: An inside look at teaching in community colleges*. New York and London: Routledge.
- Grubb, W.N., and Lazerson, M. (2004). *The Education Gospel: The Economic Value of Schooling*. Cambridge: Harvard University Press.
- Grubb, W. N., & Ryan, P. (1999). *The Role Of Evaluation For Vocational Education and Training: Plain Talk on the Field Of Dreams*. London: Kogan Page and Geneva: International Labour Office.
- Grubb, W.N., and Sweet, R. (2004). *Alternatives to Universities Reconsidered*. Education Policy Analysis 2004. Paris: OECD.
- Harberger, A. (1998). A Vision of the Growth Process. *American Economic Review*, 88(1):1 – 32.
- Heijke, H., and Koeslag, M. (1999). The labor market position of university education and higher vocational education in economics and business administration: A comparison. *Education Economics* 7(3):259-276.
- Hodkinson, P., Sparkes, A., and Hodkinson, H. (1996). *Triumphs and Tears: Young People, Markets, and the Transition from School to Work*. London: David Fulton Publishers.

- Huisman, J., and Kaiser, F., eds. (2001). *Fixed and Fuzzy Boundaries in Higher Education*. Den Haag: Adviesraad voor het Wetenschaps en Technologiebeleid.
- Jacobs, J., and Grubb, W. N. (2006). The limits of “training for now”: Lessons from information technology certification. In T. Bailey and V. Smith-Morest, eds. *Missions Accomplished? Multiple Perspectives on Access and Equity in the Community College*. Forthcoming, Johns Hopkins University Press.
- Kehn, B. (2006). The German “Initiative for Excellence” and the issue of ranking. *International Higher Education* 44:20-22.
- Kis, V. (2005). *Quality assurance in tertiary education: Current practices in OECD countries and a literature review on potential effects*. Paris: OECD.
- Krueger, A., & Lindahl, M. (2001, December). Education for growth: Why and for whom? *Journal of Economic Literature*, 34, 1101 – 1136.
- Kwon, D. B. (2001). *Adult education in Korea*. Unpublished paper, College of Education, Korea University, Seoul.
- Landau, R.T., Taylor, T., & Wright, G. (1996). *The mosaic of economic growth*. Stanford: Stanford University Press.
- OECD (1973). *Short-Cycle Higher Education: A Search for Identity*. Paris: OECD.
- OECD (1997). *Active Learning for Students and Teachers: Reports from Eight Countries*. Paris: OECD.
- OECD (2000). *From Initial Education to Working Life: Making Transitions Work*. Paris: OECD.
- OECD (2001). *Education Policy Analysis: Education and Skills*. Paris: OECD.
- OECD (2002). *The role of qualifications systems: Guidelines*. Paris: OECD.
- OECD (2003). *Beyond Rhetoric: Adult Learning Policies and Practices*. Paris: OECD.
- OECD (2005). *Helping worker to navigate in “globalized” labor markets*. Policy Brief. Paris: OECD.
- Raffe, D. (2005). *Qualifications Frameworks in Europe: Learning Across Boundaries*. Report of the Glasgow Conference, 22- 23 September 2005. Edinburgh: University of Edinburgh.
- Rumberger, R. W., & Daymont, T. N. (1984). The economic value of academic and vocational training acquired in high school. In M. E. Borus (Ed.), *Youth and the Labor Market* (pp. 157-191). Kalamazoo, MI: W.E. Upjohn Institute.
- Ryan, P. (2001). The school-to-work transition: A cross-national perspective. *Journal of Economic Literature*, 39(1): 34 – 92.
- Seddon, T., and Anderson, D. (forthcoming). Flexibilising VET: Where from, where next? In L. Unwin and P. Hodkinson, eds. *Culture, Context, and Meaning: Vocational Education and Training in an Expanding Europe*. Dordrecht: Springer.

- Sellin, B. (2002). *Scenarios and Strategies for Vocational Education and Lifelong Learning in Europe*. CEDEFOP Panorama Series 40. Luxembourg: Office for Official Publications of the European Communities.
- Shulman, L. (1968).
- Tessaring, M., and Wannan, J. (2004). *Vocational Education and Training: Key to the Future*. Thessaloniki: CEDEFOP.
- Topel, R. (1999). Labor markets and economic growth. In O. Ashenfelter & D. Card, (Eds.), *Handbook of Labor Economics*, 3 2944 – 2984. Amsterdam: Elsevier Science.
- Weiss, P., Dolan, D., Stucky, W., and Bumann, P. (2005). *ICT Skills Certification in Europe*. Thessaloniki: CEDEFOP.
- Wolf, A. (2002). *Does education matter? Myths about education and economic growth*. London: Penguin Books.
- Wolf, A. (2004). Education and economic performance: Simplistic theories and their policy consequences. *Oxford Review of Economic Policy* 20(2): 315-333.
- Young, M. (2005). *National qualifications frameworks: Their feasibility and effective implementation in developing countries*. Skills Working Paper No. 22. Geneva: International Labour Office.