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TECHNICAL REPORT

Implementation of new curriculum arrangements for 14-19 year olds

International comparisons

Cathleen Stasz, Jack Clift, Jennifer Rubin

Prepared for the National Audit Office

The research described in this report was prepared for the National Audit Office.

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Published 2008 by the RAND Corporation
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Preface

This report, which was commissioned by the National Audit Office (NAO), presents results of a comparative study investigating the implementation of education programmes for 14–19 year olds in three countries: The Netherlands, Sweden and Australia.

The main purpose of the study is to identify lessons that could lead to improvements in implementation and delivery of the new 14–19 Diplomas programme. In particular, the study focuses on two aspects of Diploma implementation: local delivery partnerships and employer involvement. The structure of the case study reports follows an outline agreed by RAND Europe and the NAO (see Appendix B). The case study reports provide a general overview of each country’s secondary education system; processes for implementation and delivery of qualifications; the nature and level of employer involvement; and comparative lessons. In addition, an overarching analysis, which is presented in the final chapter, draws out the principal themes of the comparison between the case studies and aims to identify lessons for 14–19 Diplomas.

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Summary

1. In 2005 the UK government laid out its plans for 14–19 education in the White Paper, *14-19 Education and Skills* (DfES, 2005). Among other reforms it proposed the introduction of 14 new awards, called Diplomas, linked to occupational sectors of the economy. Diplomas would chart a middle course between academic learning (e.g. GCSEs, A-levels) and vocational education (e.g. National Vocational Qualifications (NVQs), apprenticeships) and enable learners to acquire a range of skills in preparation for employment or higher education. Motivated by a desire to establish a more ‘demand-led’ education system, the government initiated an innovative, experimental approach to Diploma development that put Sector Skills Councils (SSCs) and employers in the lead.
2. Against this backdrop the National Audit Office (NAO) is undertaking a study of the government’s 14–19 education and skills programme. The NAO study will focus on the overall risk to the programme in terms of local preparedness to deliver the reforms. In particular, it will examine whether local partnerships are on track to deliver the programme across all areas of England.
3. As part of this larger study, the NAO commissioned RAND Europe to carry out an international comparison of how qualifications with a vocational component, which are comparable to the new Diploma, are delivered in three other countries: The Netherlands, Sweden and Australia. In this three-month investigation the RAND Europe team engaged in desk research to gather information and data, following an agreed template (see Appendix B).
4. The main objectives of the study are to:
 - provide an overview of selected countries’ systems of secondary education
 - describe education qualifications analogous to Diplomas
 - review the approaches used to implement the relevant qualifications
 - synthesise lessons learned that might be applicable to the English context.
5. It was recognised at the outset that contextual differences between countries can limit the extent to which processes or lessons can be borrowed from one country and transferred to another. However, an understanding of the nature of the differences can perhaps reveal new possibilities and suggest alternative approaches or directions. The main findings were as follows.

Curriculum, school organisation and funding affect programme delivery at the local level

6. The extent of partnership for education programme delivery appears related to different factors, especially the structure of the curriculum, qualifications, and schools, and funding arrangements. The Netherlands and Sweden are less likely to form partnerships for education delivery, partly because their education programmes emphasise general education up to age 16 even within occupationally-defined pathways. The Netherlands recently consolidated schools and regional training centres (ROCs), which means that more programmes can be offered wholly within one local institution. Sweden's modularised curriculum provides flexibility for municipalities as courses that make up a programme of study can be organised in different ways. Partnership among education providers is more common at the Advanced Vocational Level, when the curriculum becomes more specialised.
7. The Australian system permits flexible partnership arrangements, but these are underpinned by their qualification structures. National Training Package Qualifications (TPQs) can only be offered by Registered Training Organisations (RTOs). Different types of public and private institutions can become RTOs. At the local level, for example, schools can become RTOs and thereby offer nationally recognised vocational and technical education programmes or they can collaborate with RTOs to provide part of the curriculum.
8. In contrast to the other systems considered, the league tables in England create incentives for schools to compete, not collaborate. Failing schools can be taken over by the government. Differences in funding streams for 14–16 and post-16-year-old learners create barriers to collaboration between schools and colleges by raising complications over who pays. This type of competition is not present in The Netherlands or Sweden, as municipalities have the responsibility and funding for education provision up to at least age 18. The Australian system creates incentives for schools to collaborate with RTOs.

Social partnership relationships support employer involvement

9. Employer participation in the education system is historically strong in The Netherlands and Sweden, and is based on a tri-partite system where government, employers/industry, and employees (unions) have equal representation. The Australian system is bi-partite (government and employers) and also features input from labour leaders, although not as strongly as in the other two countries. These “social partner” arrangements are often backed up by other regulations with respect to the employers' role in design of qualifications, monitoring of provision, and funding arrangements. In contrast, the relationship between the government and employers around education policy in England is historically voluntarist – the government preferring to use inducement policies or to exhort employers to participate rather than regulate them.

Employer/sectoral bodies drive the education system

10. The UK government has charged the relevant SSCs to develop Diplomas in partnership with other stakeholders including education providers (schools, colleges,

higher education institutions). The SSCs are government established and funded bodies, and the Diploma and its development process follow the government's design and initiative.

11. In contrast, in Sweden and The Netherlands the sectoral bodies are independent of government yet have legal responsibility for developing, updating and monitoring provision of vocational qualifications. The sectoral bodies set the framework for education providers to use to develop educational programmes, and determine when changes are needed. Collaboration among social partners is the expected norm at the municipal level.
12. The Australian system is more like England as the Industry Skills Councils (ISCs) are government funded, and they must also coordinate with a variety of other bodies at the state/territory level. ISCs have authority over design of national TPQs, but the states/territories remain responsible for monitoring quality in the RTOs. Even after a decade there are still concerns that employers are not fully represented (especially small and medium size employers).

Extent of integration between academic and vocational learning

13. In The Netherlands and Sweden, integration between academic and vocational learning can be seen to operate at a number of different levels. At the curriculum level both of these systems emphasise a common core of academic learning up to at least age 16, even though most students are pursuing occupationally-oriented pathways. Specialisation generally occurs at upper secondary levels (post 16) for some students. A second level of integration concerns school-and work-based learning; in Sweden for example this amounts to 15 weeks of work-based training organised by schools and employers at the municipal level. Linkages between school-based initial vocational education and continuing vocational education (including for employed adults) represents a third level of integration. Employer/employee bodies are central players at all levels of Vocational Education and Training (VET); their current and forecasted skill needs are fed into the whole system. Similarly, Australia's TPQs count towards the secondary school leaving certificate and must provide progress toward an Australian Qualifications Framework (AQF) standard, the same system used for adult education.
14. The Diploma programme evolved from a government-sponsored study of 14–19 education, which proposed a radical reorganisation of the curriculum that would have abolished GCSEs and A-levels as separate academic qualifications. The government rejected this proposal and created Diplomas as a way to bridge the gap between the existing academic and vocational routes. The Diploma is meant to incorporate work-based learning experiences, but the depth and extent of work-based learning, and infrastructure needed for implementation is unknown at this time. The Diplomas are meant for 14–19 year-old learners, and their relationships to already existing NVQs, or progression routes to apprenticeship and higher education, have not yet been worked out. Adult and continuing vocational education policy is proceeding on a separate trajectory from Diplomas. The absence of clear progression pathways for non-

academic qualifications in England marks a clear distinction from the other countries studied.

Acknowledgments

We would like to acknowledge several colleagues who helped with our inquiries into the country studies: Tom May (QCA), John West, Dr Betty Feenstra (Netherlands Education Council), Professor Wim Nijhof (University of Twente) and Dr Ewart Keep (University of Cardiff). RAND colleagues Steve Wooding and Jan Tiessen reviewed the draft report and provided many helpful suggestions.

CHAPTER 1 Introduction

The *14–19 Education and Skills* White Paper (DfES, 2005) set out UK government proposals to create a new national curriculum and qualifications entitlement. From the age of 14 onwards young people would be able to choose from among 14 new themed awards, called Diplomas. Each Diploma, linked to occupational sectors of the economy, would incorporate academic and vocational content and be available at three levels. The aim of Diplomas is for learners to acquire a range of widely applicable skills, set within a specialised employment sector and applied learning context. Applied learning – acquiring knowledge and skills through tasks or contexts that mirror the world of work – is central to the Diploma concept. Diplomas are meant to prepare students for either university or employment, and to attract students who may find applied learning more engaging than more “academic” provision.

The first five Diplomas will be available from September 2008, the next five in 2009, and the final four in 2010. A national entitlement will be introduced in 2013, which means that all 14–19 year olds will have the right to take a Diploma course wherever they are in the country.

The government’s intention has been that Diplomas should be employer-led. The contention is that this approach, which is unique in England for qualifications development, will help ensure that the Diplomas meet the demands of business. Diploma Development Partnerships (DDPs) are responsible for developing the skills, knowledge, and understanding that the Diplomas should cover. DDPs, coordinated by relevant Sector Skills Councils (SSCs), are multi-organisational partnerships that can include employers, schools, colleges, representatives from higher education, professional bodies and awarding bodies.

A recent report by the House of Commons Education and Skills Committee on 14–19 Diplomas (HC, 2007) pointed to a number of problems with Diploma design and development thus far. The report concluded that while significant progress has been made, the development process has been frustrating for many involved. The partnership approach has been experimental, and also highly complex, involving many players. The report expressed concern that there has been little *direct* involvement in or feedback from small and medium size employers. Lack of involvement threatens business acceptance of Diplomas. There has also been a lack of clarity about who is responsible for taking key decisions.

The Department for Education and Skills (DfES)¹ has also made it clear that Diploma delivery will require schools and colleges to collaborate, because one institution alone is unlikely to be able to deliver even a limited number of Diplomas. Central to the delivery of Diplomas is the formation of 14-19 partnerships among a wide range of organisations including schools, colleges, training providers, employers, careers advice services, local authorities and local Learning and Skills Councils. Collaborative working around 14–19 education is not strictly new and some successful partnership arrangements may provide lessons for others. For example, the 14-19 Pathfinder partnerships support development of closer relationships between schools and colleges in a local area to enable young people to follow courses at more than one local institution.

The House of Commons Education and Skills Committee report (HC, 2007) noted that the overall picture of collaboration is patchy: areas with prior experience of joint working on 14–19 education are relatively confident of their ability to deliver the Diplomas using a collaborative approach, but many local areas are some way from the kinds of working that will be required to successfully deliver Diplomas. The UK government's implementation process is to identify and select local consortia who report having good partnership arrangements in place. This process will help ensure that the Diplomas begin on a strong footing. Yet in spite of a statutory requirement in the Education Act 2006 for schools to collaborate, questions remain as to how to incentivise and support that collaboration. In the current environment, individual institutional performance tables tend to reward competition over collaboration (Hodgson and Spours, 2006). In addition, current funding mechanisms remain separate for 14-16 year olds and 16–19 year olds, a situation that presents challenges for local providers (Styles et al, 2006).

Against this background, the National Audit Office (NAO) is undertaking a value for money study of the UK government's 14–19 education and skills programme. The NAO will focus on the overall risk to the programme in terms of local preparedness to deliver the reforms, and will address the following four related areas of risk:

1. achieving full coverage and commitment from local partnerships
2. developing the necessary governance capacity and leadership at the local level to drive forward the reforms
3. planning for sustainability and affordability
4. providing support and commitment to local partnerships that will maintain and build confidence in the reform programme.

The study will investigate whether partnerships – comprised of schools, colleges, training providers, employers, careers advice services, local authorities, local Learning and Skills Councils – are on track to deliver the 14–19 reform programme across all areas of England. Collaboration may be a significant challenge for many institutions used to a

¹ On 28 June 2007 the UK Prime Minister abolished the DfES and Department for Trade and Industry (DTI) and set up three new departments: the Department for Children, School and Families (DCSF), the Department for Innovation, Universities and Skills (DIUS) and the Department for Business, Enterprise, and Regulatory Reform (DBERR). At the time of writing, it appears that the DCSF will have responsibility for the Diploma programme, working with the DIUS.

regime of league tables and competition and with perhaps little history of collaborative ventures.

As part of this larger study, the NAO has commissioned RAND Europe to carry out an international comparison of how qualifications with a vocational component, which are comparable to the new Diploma for 14–19 year olds in England, are delivered in three other countries. The three countries selected were The Netherlands, Sweden and Australia. The criteria for selecting these countries included evidence of successful partnership arrangements, significant vocational provision, and characteristics that the UK might aspire to (e.g. higher participation). The objectives of this comparative study are to:

- provide an overview of selected countries' systems of secondary education
- describe education qualifications analogous to Diplomas
- review the approaches used to implement and embed the relevant qualifications
- synthesise lessons learned that might be applicable to the English context.

This report presents evidence collected from the three country studies. The following chapters each focus on one country, following a common template to increase comparability across countries. Chapter 2 discusses The Netherlands, followed by chapters on Sweden (Chapter 3) and Australia (Chapter 4). Each country chapter includes a general overview of the country's secondary education system (aims, courses/programmes, pathways, qualifications and students), processes for implementation and delivery of qualifications (delivery methods, infrastructure, funding, and implementation issues), the nature and level of employer involvement, and possible comparative lessons for England. Emphasis is placed on partnership arrangements for curriculum delivery and employer involvement. A comparison of the countries, distilling some core findings, is provided in Chapter 5. Appendix A presents the study's methodology; Appendix B contains the template used for the country studies.

CHAPTER 2 The Netherlands

2.1 General overview of the secondary education system²

2.1.1 Institutions

The number, type and size of schools in The Netherlands changed dramatically during the 1990s, due to a government policy of merging schools as a way to better integrate and nationalise the system. Between 1992 and the 2003/04 academic year, 1454 secondary schools were consolidated into 656 (Eurydice, 2005/06). This policy increased both the size and the instructional breadth of the average secondary institution, with multiple educational pathways now offered within most secondary schools. Table 2.1 provides further information about schools and pupils.

Table 2.1: Number and type of institutions and average number of pupils per school

Type of School	Number of Institutions	Average Number of Pupils per School
Primary Education (Total)	7572	
- Primary Education Schools	6929	223
- Special Primary Education Schools	320	145
- Special Secondary Education	323	195
Secondary Education (Total)	652	1397*

*Authors' calculation; Special education at secondary level is considered a continuation of special primary education, thus counted with primary schooling.

Source: Ministry of Education, Science and Culture (2007)

Post-secondary institutions consist of universities (12 institutions serving 187,000 students in 2003/04), institutes of higher professional education (43 serving 335,000), regional

² This case study draws heavily from Eurydice (2005/06) and from Maes (2004).

training centres (ROCs) (40 serving 454,000), and agricultural training centres (AOCs) (12 serving 23,000) (Maes, 2004).

2.1.2 Aims

Education policies in The Netherlands aim to reduce the percentage of early school leavers; increase the percentage of students with at least higher secondary education; increase the education level of 15 year olds; and increase participation in lifelong learning (Maes, 2004). There is no stated desire to integrate vocational and general education at the programme level. However, as discussed further below, vocational programmes blend academic and vocational subjects, and core academic subjects are common across both academic and vocational pathways.

2.1.3 Courses/programmes

Students begin secondary education at age 12, and enter one of three main tracks: pre-university education (VWO); senior general secondary education (HAVO); or preparatory senior secondary vocational education (VMBO).³ VWO typically lasts six years, HAVO five, and VMBO four (see Figure 2.1).

In the first two years of secondary education, all students study similar curricula, and most students are in mixed-track classes. In most schools there is no strict division between tracks until after the common academic courses have been completed. VMBO students choose a specific work sector and programme⁴ at the end of the second year (age 14); HAVO and VWO students must choose from four fixed-subject specialisations⁵ by the end of their third year.

2.1.4 Pathways

In the first two years of secondary school, all students take a core curriculum of 15 subjects for at least 80 per cent of their school time, with schools having discretion over the remaining 20 per cent. The national government recommends specific numbers of teaching periods⁶ to be spent on each of these core subjects: Dutch and Mathematics are the most heavily emphasised (400 teaching periods each), followed by Physical Education (360), English (280) and either French or German (240).

After the first two years, all tracks continue to emphasise Dutch language and literature and English, and all tracks contain some mathematical component. Students continue to study a range of courses in each track after the second year, with some scope for specialisation. VWO and HAVO students retain a broader set of compulsory core classes (including English literature and a second foreign language) than the VMBO students;

³ We include information on both junior secondary education (ages 12–16) and senior secondary education (ages 16–19) as these phases overlap with the intended ages for the Diplomas (ages 14–19).

⁴ Sectors: Engineering and Technology; Care and Welfare; Business; Agriculture. Programmes: Theoretical; Combined; Middle-Management Vocational; Basic Vocational.

⁵ Specialisations: Culture and Society; Economics and Society; Science and Health; Science and Technology.

⁶ Teaching periods are assumed to last 50 minutes in the first stage of secondary education and 60 minutes in the second stage, but the length is not prescribed by law.

additionally, unlike VWO and HAVO specialisations, VMBO subject specialisations are explicitly focused on the student's chosen economic sector⁷.

VMBO students who choose the most theoretical academic programme may transfer into the fifth year of the HAVO track after completing preparatory senior secondary vocational education. Similarly, some HAVO students transfer into the sixth year of the VWO track after completing senior general secondary education.

⁷ For example, students specialising in the Business sector take classes in economics and either mathematics or a second modern language; students specialising in the Engineering and Technology sector take classes in Mathematics, Physics and Chemistry.

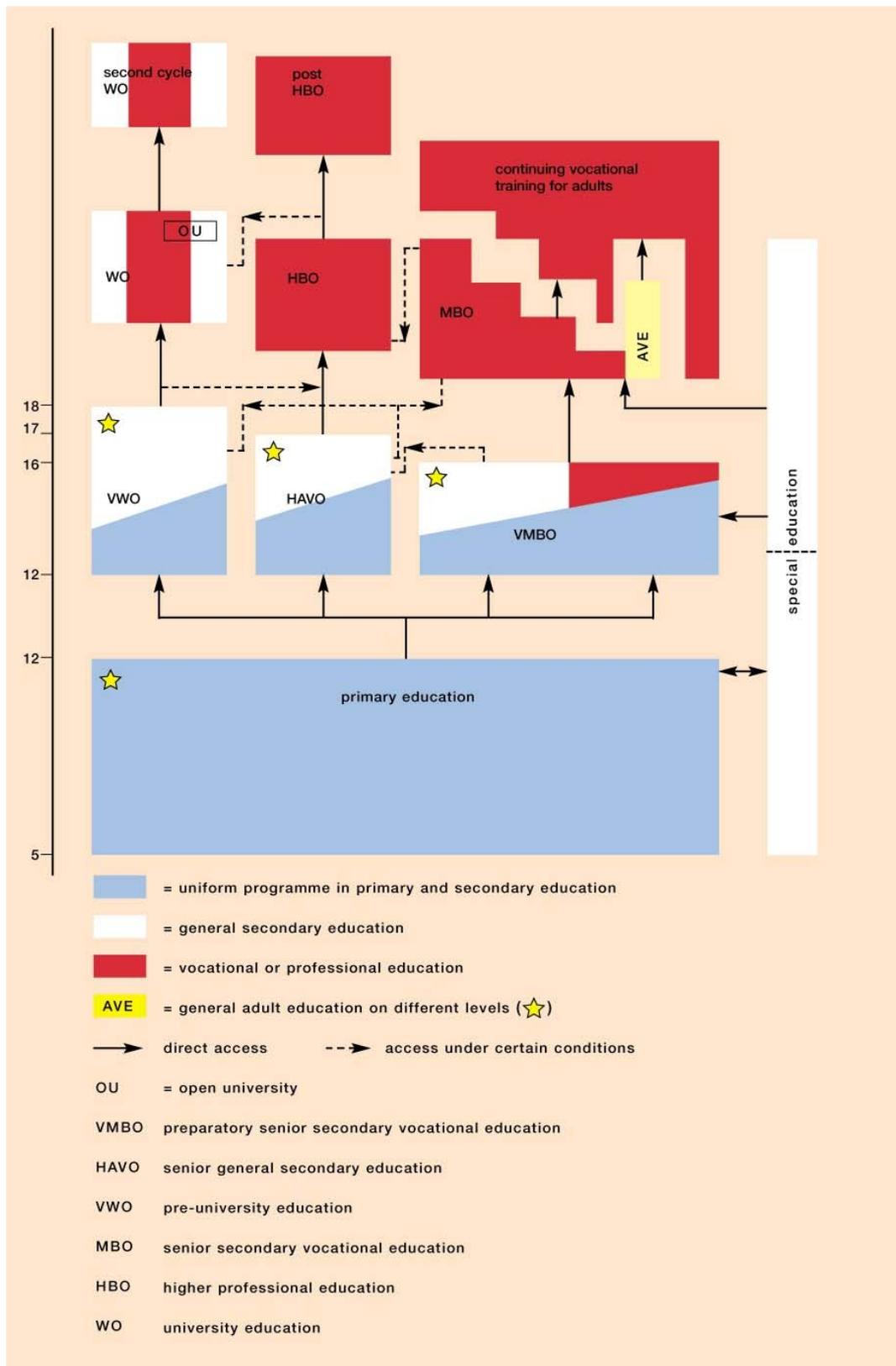


Figure 2.1: Structure of the education and training system in The Netherlands

Source: © CINOP, 2004. Reproduced with permission.

VWO students typically enter university education (WO); HAVO students typically enter the institutes of higher professional education (HBO); VMBO students typically enter into senior secondary vocational education (MBO) at the ROCs or the AOCs. Roughly 20 per cent of those who enter senior secondary vocational education move on to institutes of higher professional education after they receive their MBO diploma.

2.1.5 Qualifications

The Netherlands is in the process of establishing a competence-based national qualifications system/framework that aims to streamline qualifications and harmonise more closely with the world of work.⁸ In principle, a national framework establishes both the vertical and horizontal linkages between qualifications. A national qualifications system appears to be an important instrument for enhancing the communication between education and social partners (Leney et al, 2005).

Student certification for VWO, HAVO and VMBO is based on school and national examinations. National written examinations are taken at the same time in every school, and cover all the core and specialisation subjects. VMBO students in the basic vocational or middle management vocational programmes also take some practical examinations. School examination is arranged at the discretion of individual schools, and typically includes both timed examination and project coursework. Students receive a leaving certificate and a transcript of their performance on their national and school examinations and coursework.

At the “senior secondary” MBO level, students select a “sector” of interest and a level of diploma: sectors are the same as at the VMBO level (Engineering and Technology; Care and Welfare; Business; Agriculture); the four levels of diploma are defined based on the degree of responsibility of the target occupation, complexity of tasks, and transferability of skills.

1. “Assistant” level training takes one year and prepares students for simple tasks.
2. “Basic Vocational” level training takes two to three years and prepares students to perform less simple tasks.
3. “General Vocational” level training takes two to four years and prepares students to perform more independently than the Basic Vocational training.
4. “Middle Management” level training takes four years, prepares students for specialised independent work, and also allows students to enter into the higher professional education system (HBO).

Students receive certificates for each self-contained unit they complete, and receive a full diploma when they have received the relevant certificates and completed the appropriate practical training. This framework is used by both public and private training providers, which means that the system in The Netherlands has a sectoral focus irrespective of where the training takes place.

⁸ Colo, the Adult Education and Vocational Council, and the Platform for Improved and Recognised Private Educational Institutions in The Netherlands are working together on this new structure.

2.1.6 Students

The majority of students are in the preparatory vocational programme. In 2003, VMBO accounted for 60 per cent of students taking final exams, compared with 40 per cent combined for the other two pathways (HAVO and VWO). Boys are more likely to enrol in the technical programmes, which is a concern to the Dutch government (see Table 2.2).

Table 2.2: Percentage of students enrolled in different VMBO programmes, by gender

Programme	Male	Female
Theoretical	40	44
Business	20	18
Engineering and Technology	37	1
Care and Welfare	3	37

Source: Statistics Netherlands, 2005

Roughly 70 per cent of those completing the VMBO programme go on to further vocational work at the MBO level, with the others transitioning sideways into higher professional education or joining the labour force. Roughly 80 per cent of those completing the HAVO programme go on to higher professional education at the HBO level, with others moving to MBO, VWO or leaving the workforce. Roughly 75 per cent of those completing the VWO programme go on to the WO level, 15 per cent opt for HBO, with the remainder joining the labour force (Statistics Netherlands, 2007).

The compulsory schooling age extends to 18 (at least part-time), which means that a large proportion of young people are supported by vocational learning when they are already working with an employer.

2.2 Implementation and delivery of qualifications

2.2.1 Delivery methods

The institutional framework for education delivery in the Dutch system involves three levels:

1. National (ministries, umbrella organisations, support or advisory organisations, examination institutions and national social partner institutions)
2. Sectoral (social partner organisations by sector)
3. Regional/local (schools, private training centres, municipalities, regionally organised social partner organisations).

At the national level, the Ministry of Education, Culture and Science has responsibility for the total education system, including vocational and adult education. Other ministries focus on certain sectors (e.g. agriculture) or particular issues (e.g. education and training for the unemployed). The ROCs are represented at the national level by the Dutch Council for Vocational Education and Training; higher professional education (HBO) are represented by national level associations.

The 1996 Dutch Adult and Vocational Education Act, known as the WEB Act (*Wet Educatie Beroepsonderwijs, WEB*), placed sectors at the centre of vocational education reform. At the sectoral level, each of the 19 national expertise centres for vocational training and the labour market (*Kenniscentrum Beroepsonderwijs Bedrijfsleven* or “Knowledge Centres”) are intermediary organisations, with boards consisting of representatives of both employers and employees and (in most cases) educators. These institutions are unique and do not have exact equivalents in other countries (Maes, 2004; Sung et al, 2006).

The Knowledge Centres act as a link between the organised labour market and education institutions, carrying out a number of tasks by law:

- Developing and maintaining the qualifications for MBO
- Recruiting companies to offer practical training places and monitoring the quality of these companies (in HBO and, since 2003, VMBO)
- Acting as a quality control body, including oversight of examinations conducted by ROCs.

The WEB Act also consolidated vocational training on a regional basis. After consolidation at the regional/local level, there were 43 ROCs in 2003/04 and 12 AOCs.⁹

Each Knowledge Centre links with a mirror sectoral education group located within the Dutch Council for Vocational and Adult Education (BVE Raad), which represents the ROCs. Thus, the Knowledge Centres define the competencies, which are fed into ROCs via the BVE Raad. In 2004, the Ministry of Education provided €2.3 billion to the ROCs, distributed according to the number of students, the number of diplomas awarded and the extent of the preparatory and supporting activities.

A feature of The Netherlands and some other European Union (EU) countries (Austria, Denmark and Norway) is the increasing trend towards decentralisation in the sense that curricula are established at the national level, but allow for a certain amount of regional orientation in their implementation. For example, ROCs have the right to adapt up to 20 per cent of the national curriculum to meet the needs of local or regional employers.

Collaboration between schools (e.g. VMBO and MBO or MBO and HBO) is non-compulsory, but far from non-existent. There are numerous examples of collaboration and agreements between schools, referred to as “doorlopende leerlijnen” (continuous learning paths) or as “Lerende regio's” (Learning Regions).¹⁰

2.2.2 Infrastructure

Teaching arrangements

The Netherlands has teacher shortages in Vocational Education and Training (VET) due to an ageing workforce. There are various levels and fields of professional teaching

⁹ The AOCs offer preparatory and senior secondary vocational education courses in agriculture. Thirteen professional colleges (*vakschool*) offer courses in specialised branches, such as shipping and transport, graphics, and creative professions.

¹⁰ Personal communication, Dr Betty Feenstra, Netherlands Education Council, 3 May 2007.

standards, oriented towards performance criteria, which define career paths for teachers. The Netherlands appears oriented towards allowing more flexibility in teacher training and recruitment policies and practices to attract interest in the education sector. For example, special two-year training courses have been developed to provide individuals with skills needed for work in various functions (teacher, assistant teacher, support staff). This strategy aims to balance high quality with a shrinking teacher pool (Leney et al, 2005).

Workplace connections

There are two routes through the upper secondary MBO programme that are seen as having equal status. In the first, students spend at least 60 per cent of their time receiving training in a company, spending the rest at school. In the second, students spend 20–60 per cent of their time in a company, the rest at school. In theory, all levels of MBO qualifications can be taken through either route, although this is not always the case in practice.

These alternatives enable the Dutch system to cope with economic change. In times of economic downturn, when employers may be reluctant to offer traineeships, young people continue to receive training by shifting more places toward the school-based route.

2.2.3 Funding levels and mechanisms

Government spending on general and vocational education accounts for roughly 5 per cent of gross domestic product (GDP), and is ten times as large as private expenditure on education (OECD, 2007). The Netherlands has a long-running “open education” policy, through which public and private schools are equally eligible to receive “block grant” funding from the national government on a per-student basis. In order to provide equality of opportunity to students from disadvantaged backgrounds, schools receive additional money based on the numbers of ethnic minority and/or low socio-economic background students (de Vijlder, undated; post 1998).

Secondary schools must meet all staff and running costs with their block grant, and within statutory parameters. The Minister of Education, Culture and Science funds vocational education directly, based partly on the number of students per course/pathway and partly on the number of certificates awarded per institution.

Financial incentives are provided to employers who provide training contracts to new or existing employees. An employer accredited for sectoral training can claim approximately 15 per cent of the trainee’s wages back as a tax refund. This is mainly used for entry level workers. Furthermore, the Knowledge Centres are paid according to how many competency standards/programmes they develop and maintain, how many companies are accredited, and how many students they recruit. Because funding is tied to specific activities, and because they can earn income through various other activities (e.g. design-specific training for an employer), many are highly funded in comparison to their counterparts in other countries. As long as they fulfil their legislated remit, Knowledge Centres are relatively autonomous and can use their funding as they see fit (Sung et al, 2006).

Employers also contribute to sector-wide funds through a collective bargaining-based levy system that can be used for various industry-specific projects.

2.2.4 **Issues encountered in implementation**

Educators and political leaders in The Netherlands have debated about the relative worth of school- and work-based training. However, it is generally recognised that both routes offer different advantages and provide scope to serve learners/trainees with different needs.

The Knowledge Centres are reducing the number of recognised qualifications from 800 to about 250–200 over the next five years. This has raised issues about defining common competence and specialist knowledge. Employers tend to favour specialist knowledge, while governments tend to emphasise development of common competences, which are seen as more transferable across the labour market. Reduction in the number of programmes may also affect funding for some Knowledge Centres.

Educational institutions in The Netherlands are required by law to inform the municipality of early school leavers. Municipalities must follow up and try to help these school leavers back into education or work (in cooperation with others such as youth care departments, the police, and centres for work and income). Nonetheless, the government is concerned about the number of students/trainees who drop out or fail to complete their programmes, and are in the process of reviewing their policies (Sung et al, 2006).

2.3 **Nature and level of employer involvement**

In The Netherlands, the “social partners” – government, business and organised labour – collaborate extensively. Central to the WEB Act was a tight integration between school- and work-based elements of the VET system, which supports sectoral training and creates a more cohesive and dynamic system. Importantly, the Act gives vocational education equal standing and recognition with academic education as a learning pathway (Sung et al, 2006).

As discussed above, Knowledge Centres have a central role in the education system. They are further organised in an association called Colo, where two employer representatives and two employee representatives sit on its eight-person board. Branch Committees of Colo also have equal numbers of social partner and education representatives. These committees define the “occupational profiles” that educational institutions use to create sector-relevant educational profiles. Sector level representatives of the social partners also provide input into the development of qualifications.

At the regional level, social partner representatives sit on the supervisory boards of most RTOs. At the local level, collective labour agreements increasingly include training measures.

Through Colo, the social partners are engaged in strategic labour market and education planning: Colo works with the Research Centre for Education and the Labour Market (ROA) to provide sector-specific labour market forecasts that are designed to inform students and educational institutions. The forecasts include the expected labour demand for qualified personnel and the likely availability of practical training in companies within the vocational education framework. Additionally, Colo, ROA and the Centres for Work and Income (CWI) cooperate to match information on demand and supply in sectoral and regional labour markets.

2.4 Comparative lessons for England

The Leitch Review of Skills (2006) recognised The Netherlands as demonstrating a successful model for employer engagement at the sectoral level. As discussed in this chapter, sectoral Knowledge Centres play a central role in the Dutch system.

Key observations from The Netherlands:

- Secondary school and ROC consolidation has increased the size of institutions and also the breadth of course offerings. This consolidation reduces the need for providers to partner for programme delivery.
- The sectoral system is built on a tri-partite arrangement with an historically strong tradition of employer and employee involvement. This arrangement ensures that all stakeholders are engaged.
- Employers and unions, through the Knowledge Centres, are closely and continuously involved in the development and maintenance of competency framework/qualifications specifications that drive VET (some of which as part of the sector's collective bargaining). Their role is mandated in law. Employers take it seriously because it affects the skill supply in their respective sectors.
- Connections between academic and vocational learning are built into the wider system at different levels (e.g. within curriculum pathways, between school- and work-based learning, between sectoral bodies and education bodies).
- The competence-based qualification framework serves to unify vocational education at different education levels, for both young people and adults. This also enhances connection between education and the labour market.
- Financial incentives support continuous improvement in sectoral needs. For example, government funds are provided to Knowledge Centres for specific activities related to developing and maintaining national qualifications, and employers receive tax credits on trainee wages.

CHAPTER 3 **Sweden**

3.1 **General overview of the secondary education system¹¹**

3.1.1 **Institutions**

The Swedish school system consists of some pre-primary education, compulsory education for students aged 7–16, and post-compulsory/upper secondary education for students younger than 20. For comparison with the UK Diplomas, this case study focuses on the upper secondary level, which contains a vocational element, rather than the compulsory education level, which provides broad general education with little or no vocational work.

The majority of students attend the traditional municipally-run schools of 300–1500 students, but increasing numbers are attending smaller independently-run schools of 100–200 students, particularly in urban areas. A small minority of students attend some other type of school (county council schools, international schools or national boarding schools) (See Table 3.1).

Table 3.1: Number and type of institutions and average number of pupils per school

Type of school	Number of institutions	Average number of pupils per school
Municipal schools	499	614
County council schools	24	185
Independent schools	266	177
International schools	3	80
National boarding schools	3	264
Total	795	-

Source: Ministry of Education and Research, 2007.

3.1.2 **Aims**

The main aims for Swedish upper secondary school are to provide basic knowledge for professional life and future studies and to help students to become active citizens.

¹¹ This chapter draws heavily on two documents: Abrahamsson, 1999 and Ministry of Education and Research, 2007. Other sources are cited where relevant.

3.1.3 Courses/programmes

In upper secondary school, students study in one of 17 nationally recognised programmes.¹² All programmes contain a common core of subjects (Swedish, Social Studies, English, Mathematics, Physical Education and Health, the Arts, Science General and Religion) and a range of subjects specific to the specialised programme. Two of the programmes (Social Science and Natural Science) are primarily designed to prepare students for further academic studies; the other programmes fulfil the basic requirements for entry into higher education, but also encompass a more vocational element, and include at least 15 weeks of workplace-based learning.

Sweden emphasises a general syllabus, with only a minimum level of specialisation in vocational education. There is little specialisation in the secondary Vocational Education and Training (VET) system. Some specialisation is introduced in the Advanced Vocational Education System, but pure specialisation is seen as part of future on-the-job training (Lindberg, 2003).¹³

Vocational and general upper secondary education is provided within a single institution run by municipalities, county councils or independent organisations. The programmes provide for flexibility and variety. Each national programme may have different variants at the municipal level, which supports flexibility in delivery. Schools within a municipality may run different national programmes. Municipalities partner with one another to provide a full range of programmes in a local area. A pilot project is currently underway at six schools, testing an “apprenticeship” programme that would include more vocational training than the present arrangements.

Typically, students spend three years in upper secondary school, but recent reforms make this more flexible. Each school year consists of 178–190 school days and 12 days of holiday.

3.1.4 Pathways

In recent years, upper secondary education has moved towards a more flexible structure, with courses offered on a modular basis rather than as a fixed schedule of study. This allows students to have more control over their educational pathway, and makes it easier for municipalities and schools to adjust course offerings based on local needs. Each subject is divided into one or more courses, which represent some number of credits. The national framework specifies the total number of credits needed, and the number that should be allocated to core subjects, individual options, and programme-specific subjects. Adult education programmes (for learners aged 20 and older) overlap with secondary programmes and also use the modular format. Thus, like The Netherlands, the VET system is integrated across the secondary and adult levels.

¹² The programmes are Arts; Business and Administration; Child Recreation; Construction; Electrical Engineering; Energy; Food; Handikraft; Health Care; Hotel, Restaurant and Catering; Industrial; Media; Natural Resource Use; Natural Science; Social Science; Technology; and Vehicle Engineering.

¹³ Lasonen and Young (1998) observe that Sweden is most similar to Scotland in the relationship between secondary vocational education and higher education/further vocational education/working life, and in terms of the generalist syllabus.

Since 1996, some students graduating from upper secondary school have gone on to participate in Advanced Vocational Education, receiving a mixture of theoretical classroom-based learning and practical workplace training; course providers include municipal schools, commercial training companies and universities.

All of the recognised programmes fulfil the basic eligibility requirements for university education but, depending on the proposed course of study, students may have to meet more specialised requirements to win a university place. University participation has increased dramatically in recent years. Roughly 45 per cent of students graduating from upper secondary school go on to higher education within three years, almost double the participation rate of ten years ago.

3.1.5 **Qualifications**

Students undergo continuous assessment during upper secondary school, receiving marks as each course is completed (Not Passed, Pass, Pass with Distinction or Pass with Special Distinction). When they graduate from upper secondary school, students receive a leaving certificate with these course marks, along with a mark for a project completed as part of their programme.

In order to receive an upper secondary school certificate, the pupil must have a pass grade in at least 90 per cent of the credits required for a completed course of study including a pass grade for the upper secondary certificate project.

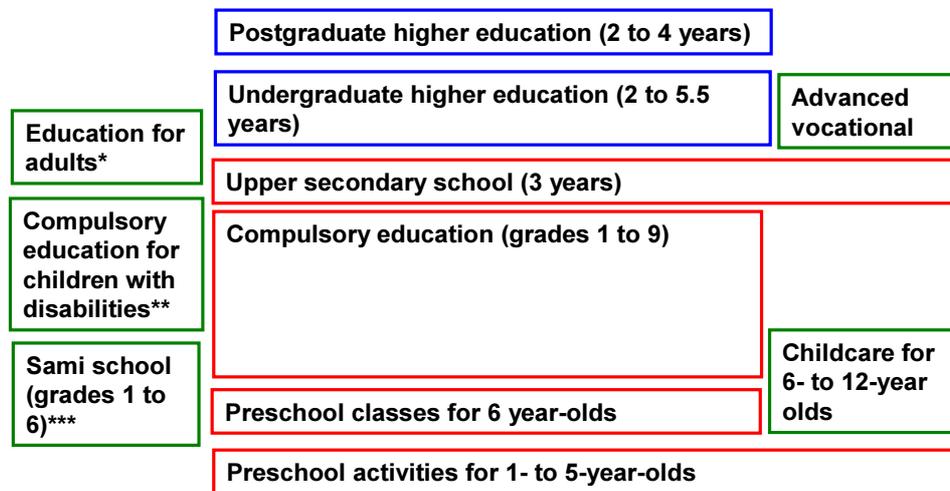
3.1.6 **Students**

Since educational reforms in the 1990s, participation in upper secondary education has increased steadily. As of 2005/06, 98 per cent of students completing compulsory education went on to upper secondary education. The high participation rate leads to a high degree of heterogeneity among students entering upper secondary education. The modular curriculum permits flexibility, however, so schools are able to cater to students with different educational backgrounds.

At the upper secondary level, about 85 per cent of students are enrolled in national programmes. The remaining students are in specially designed programmes or individual programmes.¹⁴ Of those participating in national programmes, about 54 per cent are in vocationally-oriented programmes.

¹⁴ Specially designed programmes combine courses from different national or locally developed programmes. Pupils who leave compulsory school without the necessary qualifications to pursue a national programme can follow an individual programme that aims to help them transfer to a national or specially designed programme.

The Swedish Education System



*Municipal adult education, including for adults with disabilities and immigrant education

** Upper secondary (4 years); compulsory grades 1 to 9/10; special schools for deaf and hard of hearing grades 1 to 9

*** Sami schools are for Sami-speaking children in the north of the country.

Source: Adapted from Ministry of Education and Research (2007)

Figure 3.1 The Swedish Education System

Although there is no significant gender difference in overall participation in upper secondary education, there are dramatic gender differences across the programmes (see Table 3.2).

Table 3.2: Number of pupils in secondary programmes in 2004, by gender

Programme	Male	Female
Construction	3731	155
Electrical Engineering	4413	96
Energy	767	13
Vehicle Engineering	4201	346
Industry	1500	122
Technology	5422	853
Child Care and Recreation	1421	3708
Arts	1729	4411
Handicraft	261	1751
Hotel, Restaurant and	1991	3273

Catering		
Health Care	437	2752
Natural Resource Use	999	1859
Business and Administration	1717	2851
Food	149	429
Social Sciences	8742	13,702
Natural Science	6785	5718

Source: Statistics Sweden, 2006

Males significantly outnumbered women in Construction, Electrical Engineering, Energy, Vehicle Engineering, Industry, and Technology. Females significantly outnumbered males in the remaining programmes, except for Natural Science where percentages were nearly equal (54 per cent males and 46 per cent females).

3.2 Implementation and delivery of qualifications

3.2.1 Delivery methods

Municipalities have the obligation to provide free education for students under the age of 20. The majority of municipalities fulfil this obligation directly by running municipal schools, but contracting with independent schools (approved by the national government) is becoming more common. In addition, a small minority of students attend schools run by their local county council, or a national boarding school. The workplace training and practice components of upper secondary education are provided by local business. Businesses collaborate more generally with schools through local advisory boards focused on vocational education.

Local cooperation between schools and employers is not mandatory in Sweden, but a majority of municipalities have “vocational councils” who are involved in decision making (e.g. with respect to planning, equipment purchases, workplace syllabi, curriculum, and supervisor training). Other local bodies voluntarily work with schools to monitor development of courses and competences needed in the local labour market.

Advanced vocational programmes are based on close cooperation between enterprises and course providers, who may include higher education institutions, upper secondary schools, municipal adult education, and companies.

3.2.2 Infrastructure

Teaching arrangements

In 1993, a single upper secondary teaching diploma was established to provide new educational routes into teaching and make it possible to enter teacher training relatively late in education. Upper secondary teacher education trains teachers for both theoretical

and vocational subjects. An integrated teaching degree was established in 2001, which combined the degree for teaching in higher levels of compulsory school and upper secondary school. This provides even greater flexibility for schools in finding teachers to meet their needs.

Vocational teaching in upper secondary schools is provided by specialist teachers with advanced technical qualifications or by vocational teachers who have completed vocational training and courses in teaching theory. These teachers and company supervisors both play a role in guiding students through workplace learning experiences.

To increase the quality of vocational programmes in upper secondary school, special initiatives for vocational teachers are being implemented from 2005–2008. This special teacher education (Särskild lärarutbildning, SÄL) allows non-certified teachers to study part-time for a teacher qualification while working at a school. Municipalities are responsible for in-service training of teachers.

Workforce connections

The national programmes with a vocational element (all but the Natural Science and Social Sciences programmes) require at least 15 weeks of workplace-based training.¹⁵ In line with the general theme of decentralisation, it is the responsibility of municipal school boards to work closely with local companies to provide the necessary training places for local students, and to supervise the students during the training period. The training is designed to be integrated with the overall educational experience: it is syllabus-guided, with the municipality or school deciding which parts of which courses can appropriately be taught in the workplace.

Reforms to the upper secondary system aim to improve the quality of basic vocational programmes, for example by providing a better link to working life. Local consultation between municipalities and employers/unions will be compulsory on issues that concern all vocational programmes. More pupils will be given the opportunity to receive practical training and education overseas.

3.2.3 Funding levels and mechanisms

Funding for schools is devolved to the municipal level. Municipalities use local tax revenues and state grants to fund municipal schools and (increasingly) independent schools on a per-student basis. Municipalities have almost absolute discretion on how to allocate funds, and often devolve budgetary discretion to individual schools. The only check on municipality discretion is the threat of government intervention in the event of a municipality failing to fulfil its basic obligations under the Education Act; but, as of 2005/06, the state government has never deemed such an intervention necessary.

¹⁵ From July 2007, workplace learning will become compulsory in all programmes, and local consultation between schools and working life will be introduced. In all syllabi greater emphasis will be put on pupils learning more about labour legislation and the working environment.

Initial and continuing VET (with the exception of in-company training) are publicly funded, via direct funding to municipalities, as they are viewed as a prerequisite for maintaining a highly qualified labour force.

3.2.4 Issues encountered in implementation

The introduction of workplace-based training into the general education system was well received by students: students generally appreciated the chance to apply their classroom learning in a practical setting, as well as picking up new skills in the workplace. However, many schools found this part of the education process to be particularly challenging and time-consuming due to difficulties in finding enough placements at local companies to produce a high-standard and educationally relevant experience. In some cases, schools may continue to struggle due to mismatches between local industry and the interests of students; in other places, the “teething” difficulties in establishing links between schools and the workplace have receded over time.

The pace of reforms caused additional difficulties in some areas: students beginning the programmes were not given full or accurate information on the courses that would be offered at the schools in their particular programme, and were not able to get information on how the programmes would relate to higher education eligibility. Frustration also arose when schools were forced to restrict the courses offered due to inadequate resources. Again, these problems were associated mostly with the transition period to the current system.

Concerned about the overall quality of VET, in 2006 the Ministry of Education and Culture established a committee to identify ways to increase collaboration among schools, between schools and workplaces, and between municipalities to pool resources and to offer fewer but better VET programmes. The committee appointed around 20 “Idea Schools” in different parts of Sweden. From Spring 2006, each school was to form a network with others, leading to a total of 100–200 schools overall. The overall aim of the initiative is to attract more young people into VET and to reduce the numbers leaving school without qualifications. The committee will analyse and evaluate different measures and disseminate results and “learning examples” through the network of networks (Cedefop, 2006).¹⁶

3.3 Nature and level of employer involvement

Historically, the Swedish “social partners” (trade unions and employer organisations) have been significant players in the design and implementation of vocational training, normally on the basis of common agreement rather than statute. Employer organisations and trade unions negotiate many things as part of their collective bargaining agreements, including in-work training. The social partners also play a collective role in analysing skill/competency needs for industry, and working to improve the effectiveness of vocational education towards meeting those needs.

At a local level, most municipalities have some formal body that brings together schools, employers and employee representatives. These bodies were once required by law, and many of those historic arrangements persist today in the “vocational councils” or

¹⁶ We were unable to uncover any further information on how well this new initiative is working.

“programme councils”. Moreover, most municipalities have other informal groups and networks that facilitate cooperation between schools and business, and help to identify the skill needs specific to the requirements of local business.

Students in workplace training are jointly supervised by their school and the company at which they receive their training. School-initiated supervision ensures that the training forms an appropriate part of the overall education; company-initiated supervision allows companies to shape the training experience to reflect the company’s goals, and also to assess students as potential future employees.

In addition to the cooperative mechanisms already described, many municipalities also have resource centres that help educators and businesses coordinate. Historically, these were mostly technology centres, but recent government grants encouraged municipalities to create Knowledge Centres. These resource centres vary in size and mission: the centres may possess large resources that can be shared among local educational institutions, or they may be smaller operations that aim to facilitate cooperation and resource maximising among schools themselves; the centres may seek to improve the quality of existing education, or to widen the diversity of educational options available. The centres are financed by companies, business foundations and education organisers, and can serve as a nexus of cooperation between these groups.

3.4 Comparative lessons for England

A main objective of the Diplomas is to increase post-16 participation in the UK. From a comparative perspective, then, Sweden is partly of interest because it boasts high participation rates in post-compulsory education (98 per cent), over half of which is in occupationally-defined pathways.

Key observations from Sweden:

- Municipalities are the centre of education delivery for both general and vocational education at the upper secondary level. They have a great deal of autonomy with respect to programme delivery and resource allocation.
- The modularisation of the national programmes into courses with credits is highly flexible, which makes it possible for students to individualise their learning within a national programme or to create a specialised programme. The flexibility also provides more leeway to municipalities with respect to programme delivery.
- The system design places an emphasis on general education, with minimum levels of specialisation in the secondary system, and only some at the Advanced Vocational Education level. Specialisation is seen as part of future on-the-job training, which is determined by enterprises and not regulated by the government.
- Strong social partnership arrangements exist whereby it is expected that employers and trade unions take an active role in curriculum development, particularly at the local level. This collaboration currently exists without any legal requirements.

- Collaboration does occur at the Advanced Vocational Education level, where a patchwork of providers must be pulled together (municipal schools, higher vocational education institutions, universities, etc.) to offer courses. At the upper secondary level, however, schools can generally provide the range of national programmes.

CHAPTER 4 **Australia**

4.1 **General overview of secondary education system**

Australia is a federal commonwealth, consisting of six states (New South Wales, Victoria, Queensland, South Australia, Western Australia and Tasmania) and two main territories (Northern Territory and Australian Capital Territory). Education is largely the responsibility of the states and territories, rather than the federal government, which leads to some differences in education policy across the country. For example, school education is compulsory up to the age of 16 in most states, but only up to age 15 in Tasmania. In this chapter, we only refer to differences between the states and territories where they are relevant and substantive, ignoring the many minor differences (e.g. in nomenclature) for sake of clarity and brevity.

4.1.1 **Institutions**

A number of different types of institution are involved in Vocational Education and Training (VET) for school-aged students. Most prominent are the schools that enrol students for the senior secondary certificate (the main secondary school qualifications). In 2006, there were 1478 dedicated secondary schools, and 1181 unified primary/secondary schools (Dunlop, 2007). The next largest group (in terms of students served with Vocational and Technical Education (VTE) training) consists of the Training and Further Education (TAFE) institutes, of which there were 68 in 2004 (MCEETYA 2004). Other institutions involved in VET for school-aged students are Community Education Providers (518 in 2004), agricultural colleges and other government providers (10 in 2004), and a miscellany of other providers (>1300 in 2004) that collectively serve around 10 per cent of publicly-funded VET students.

4.1.2 **Aims**

The state and territory governments and the Australian government have developed nationally consistent goals for school education, which were codified in 1999 in The Adelaide Declaration on National Goals for Schooling in the Twenty-First Century¹⁷. In summary form, they state as follows:

1. Schooling should develop fully the talents and capacities of all students.

¹⁷ For more details on the national goals see <http://www.mceetya.edu.au/mceetya/nationalgoals/index.htm>.

2. In terms of curriculum, students should have attained high standards of knowledge, skills and understanding through a comprehensive and balanced curriculum in the compulsory years of schooling encompassing the agreed eight key learning areas; attained the skills of numeracy and English literacy; participated in programs of vocational learning and participated in programs and activities which foster and develop enterprise skills.
3. Schooling should be socially just.

4.1.3 Courses/programmes

Within secondary education, students have two main VET options: the “Vocational and Technical Education (VTE) in Schools” programme, and the “New Apprenticeship” programme. New Apprenticeships are currently not a common choice for secondary school-aged students, representing fewer than 10 per cent of the total number of secondary students in school-based VET; consequently, this chapter focuses on the more popular and widespread VTE in Schools programme.

VTE in Schools programmes have been defined by the Ministerial Council for Education, Employment, Training and Youth Affairs (MCEETYA) as follows:

VTE in Schools programs are undertaken as part of a student’s Senior Secondary Certificate and provide credit towards a nationally recognised VET qualification. VTE in Schools programs are based on national industry competency standards (AEI, 2006).

Students in Australia receive a “senior secondary certificate” when they leave secondary education (see Figure 4.1). This can be made up from a number of courses – some vocational and some academic – though precise requirements vary across the country. VTE in Schools programmes broadly refer to any coursework that can count towards both the senior secondary certificate and towards the Australian Qualifications Framework (AQF) VET qualifications.¹⁸ This framework applies to all levels of VET. At the school level, this can mean providing standalone courses that correspond to modules from the nationally recognised Training Package Qualifications (TPQs), or linking more general courses to the AFQ requirements (see Figure 4.1).

4.1.4 Pathways

Workplace learning within structured VET programmes can be seen as a pathway to employment or as a broadened curriculum option for students aiming for tertiary study. However, the pathway from structured workplace learning (SWL) to employment has been “fortuitous rather than intended” in some states. Other states (e.g. Tasmania) use VTE in Schools as a direct pathway to employment, and only support programmes related to economic demand. Programmes that do not offer the possibility of work placement and subsequent employment are discarded (Kellock, 2002).

¹⁸ Students in upper secondary school can enrol in programmes at AQF Certificate I and II levels.

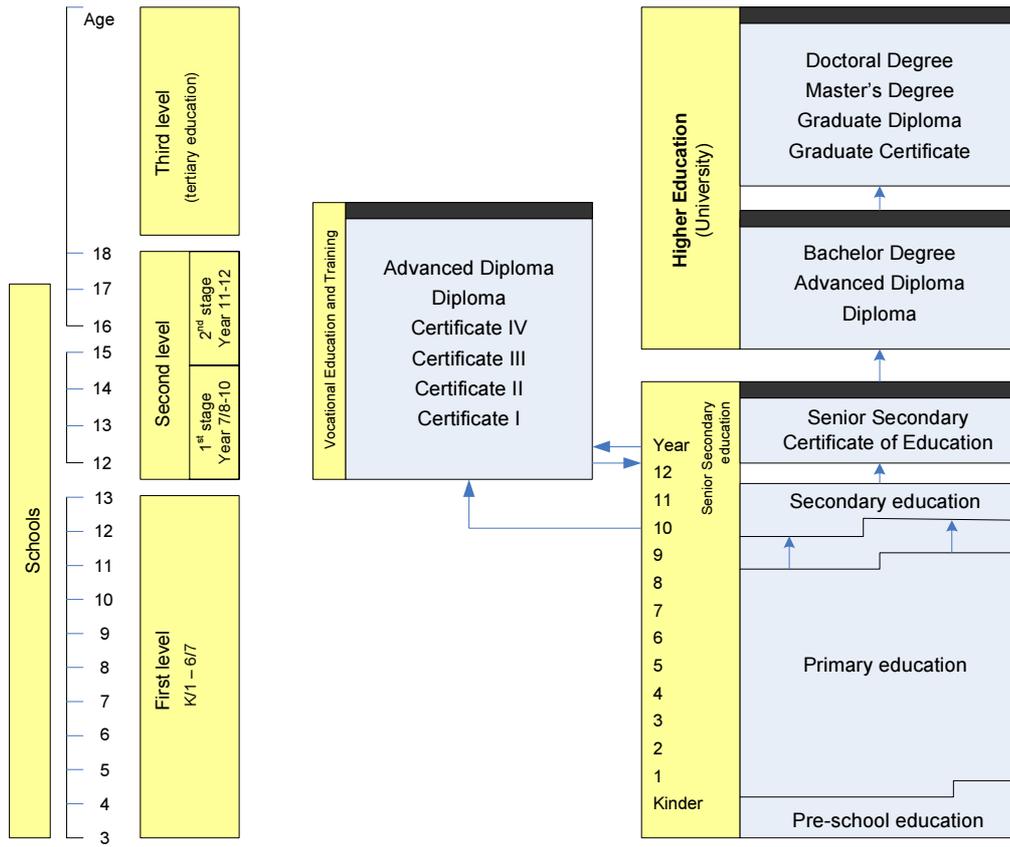


Figure 4.1: Structure of the education and training system in Australia

Source: Australian Government, Department of Education, Science and Training, 2003, copyright Commonwealth of Australia copied by permission.

Links between VET and higher education are generally increasing. For certain degree programmes, greater numbers of students are following a pathway to higher education through VET. At their own discretion, higher education institutions may also accept some post-secondary VET coursework for credit towards applicable degree programmes (AEI, 2006).

4.1.5 **Qualifications**

Assessment varies across states/territories, but has common elements. Students undergo external examinations that are state/territory-wide. These consist of some combination of school-based assessments, including “examinations, tests, analytic exercises, written research reports, essays, laboratory and other applied projects, field studies, portfolios of work, orals, aurals, and observations of performance” (AEI, 2006).

Programmes offered under the National Training Framework (NTF) lead to different types of qualifications: Certificates (at levels I–IV), Diplomas and Advanced Diplomas, and Vocational Graduate Certificates and Diplomas (AEI, 2006).

4.1.6 **Students**

Since VTE in Schools was introduced in the 1995/96 year, participation in school-based VET has increased significantly each year, from under 30,000 students in 1995/96 to over 200,000 students in 2003/04 (roughly 45 per cent of all senior secondary students) (DEST, 2003; Nguyen, 2004). Participation in VTE varies widely across the country, ranging from 28 per cent of senior secondary students in Victoria to 75 per cent of senior secondary students in South Australia (Nguyen, 2004).

4.2 **Implementation and delivery of qualifications**

4.2.1 **Delivery methods**

In terms of delivery, VTE in Schools is a very flexible programme with multiple delivery methods employed across the country (DEST, 2003). These methods vary geographically depending on the needs of the students and the availability of resources.

At one end of the spectrum, schools may register themselves as Registered Training Organisations (RTOs) and provide most or all of the instruction “in-house”, modifying existing courses to fit into the context of VTE in Schools or adding new courses from the TPQs (see Section 4.3). Schools providing the whole qualification themselves can fit the qualifications into the timetable most easily, and retain control of the student’s academic experience.

At the other end of the spectrum, some schools completely outsource their VTE in Schools instruction to other RTOs, either to the public TAFE colleges, or to private training providers. This method allows schools to focus on non-vocational instruction, avoids the costs associated with acquiring and retaining RTO status themselves, and may allow the school to provide a much broader range of options to students than they could offer in-house. However, the cost of paying for students to attend other institutions can be large,

and not all schools have other training providers within a feasible distance (a particular problem in rural areas).

In between these extremes, there is a range of partnership options that schools use to provide VTE in Schools. Some schools provide most of the training in-house, but partner with a regional RTO: the RTO provides quality assurance and validates qualifications for a number of schools, while the schools can focus on providing instruction rather than on maintaining RTO status in their own right. Alternatively, a school can partner with an RTO and share the instructional load more evenly, normally providing the most general elements in-house and contracting out the more applied vocational elements; this mode allows schools to avoid the costs of being an RTO, without having to contract out training that could be conducted more cheaply and conveniently within the school (AEI, 2006).

Cutting across these options are school “clusters”: schools partner with other schools to provide training in-house or to act as a single purchaser for training from external RTOs. School clusters may provide qualifications that involve training in two or more of the schools, allow one school in the cluster to specialise in providing VET for the others, or allow different schools to specialise in different VET areas and cross-enrol students. School clusters can expand the range of options offered to students at a relatively low instructional cost, but may be difficult to coordinate, and may not be an option in some areas (AEI, 2006).

4.2.2 Infrastructure

Teaching arrangements

States and territories determine the employment arrangements and professional requirements for teachers. Raising the quality, professionalism and status of teachers is an important priority. Since 2004, a key initiative has been the establishment of Teaching Australia – Australian Institute for Teaching and School Leadership as the national body for the teaching profession. It will develop national standards, a system of accreditation for teacher training courses, conduct research into quality teaching, and promote the profession (AEI, 2006).

Most universities offer teacher training programmes, aligned with state/territorial requirements. There are also new and flexible pathways into teacher education to attract different types of people into teaching. These are often designed for professionals with industry or vocational experience who seek a career change.

VET teachers and workplace assessors (who assess workplace components of the VTE in Schools programmes) are normally experienced practitioners of the relevant occupation.

Workplace connections

SWL is a popular component of the VTE in Schools programme, and is mandated in some industries. SWL is more than work experience, in that it links school curriculum with job training, occurs over an extended period of time, and requires assessment. Approximately 53 per cent of students involved in VTE in schools participated in SWL in 2000. Parents and students generally expect that work placement will be a routine curriculum option in the final years of secondary schooling. It is an option selected by nearly a quarter of all students in the senior secondary system. There have also been experiments to include year

9 and 10 students in SWL, especially targeted at young people at risk of leaving school early because they are disengaged from learning (Kellock, 2002).

4.2.3 Funding levels and mechanisms

The VTE in Schools programme is a fully integrated piece of the larger secondary education system. The states and territories provide the bulk of funding for secondary education, but the federal government also provides some funding on a per-student basis (roughly 10 per cent of the average cost of schooling). As well as this general education funding, the federal government allocates money each year (AU\$21.35 million in 2005/06) for schools to set up their first VTE in Schools courses or to expand their existing offerings (ANTA, 2004). Schools also raise funds through charitable donations.

Although it is difficult to disentangle costs associated with VTE in Schools from other school expenditures, a 2003 report estimated the cost of VTE in Schools to be AU\$200–250million (DEST, 2003).

4.2.4 Issues encountered in implementation

A number of issues were encountered during implementation of the VTE in Schools programme. A 1996 report highlighted some emerging issues with workplace learning, most of which had been resolved before the publication of the follow-up report in 2002 (Cumming and Carbines, 1997; Kellock, 2002). However, one key issue, procuring funding for the appointment of work placement coordinators (considered vital to the success of the workplace learning regime), persists as a problem.

In 1996, some schools faced internal problems and external pressures with regard to VET. Some general education teachers within schools were resistant to expansion of workplace learning, perceiving it as a potential drain on the resources available for general education. At the same time, schools who gained a reputation for successful VET provision were likely to face increased demand from students interested in VET, skewing the intake of students and making it more difficult to maintain a broad range of academic courses. However, internal resistance appears to have declined over time, and the schools surveyed in 2002 had maintained a broad curriculum (sometimes through concerted external efforts to avoid being perceived as a VET specialist)(Kellock, 2002).

In 1996, employers found assessment requirements to be burdensome (Cumming and Carbines, 1997). The Kellock (2002) report does not mention this issue, but emphasises the importance of good employer–school relationships, and notes that clustering arrangements used by schools to share the costs of work placement coordinators may have the side-effect of weakening links between individual schools and employers.

4.3 Nature and level of employer involvement

The Commonwealth government develops national skills and VET policy, strategy and initiatives through its Department for Education, Science and Technology (DEST).¹⁹

¹⁹ The Australian National Training Authority (ANTA) also had a role at the national level in developing the sectoral structure. It was abolished in June 2005 and its responsibilities fell to DEST.

These national initiatives are then operationalised and funded by the individual states/territories. The two-tier coordination and the NTF were established in 1992 to ensure comparability and portability of qualifications across states/territories.

National VET policy is determined by the Ministerial Council for Vocational and Technical Education (MCVTE), a group of both Commonwealth and state ministers for training. The National Industry Skills Committee (NISC) is comprised of employer and employee representatives. As a sub-committee of the MCVTE, NISC feeds directly into national decision making. NISC also nominates industry representatives to various Action Groups: these are special task forces set up to address specific issues relating to VET, and have a balanced membership of stakeholders from government, industry and VET providers. Action groups report directly to the National Senior Officials Committee (NSOC), which reports to the MCVTE.

At the sectoral level, industry operates through a network of ten broad Industry Skills Councils (ISCs) that cut across national/state jurisdictions; the ISCs superseded a larger number of smaller Industry Training Advisory Boards (ITABs) in 1994 (Sung et al, 2006). The ISCs (in consultation with employers, unions and other stakeholders) are responsible for developing the TPQs; these have superseded the previous system of national curricula and comprise “competency standards, assessment guidelines, and qualifications for a particular industry” (Choi et al, 2001). These are reviewed by industry bodies at least every three years.

ISCs also have a labour market intelligence role, feeding labour market information for their sector through the VET system and identifying current and future skill training needs.

TPQs are the most popular form of VET qualification, responsible for more than half of all VET teaching hours in 2002 (Karmel, 2004). Industries have also set up individual “industry training centres” to promote industry-specific skills.

At an enterprise level, businesses can develop their own TPQ. Some enterprises have also become RTOs, and provide workplace-centred training. In addition, enterprises participate in the school-based vocational education process by providing work experience to secondary school students participating in vocational programmes. Enterprises also provide the apprenticeships and traineeships that lead to VET qualifications.

Only RTOs can provide recognised qualifications. RTOs include specialist training companies, secondary schools and TAFE colleges, government departments and private enterprise: as described in Section 4.2.1, enterprises participating in VET programmes can provide recognised qualifications ‘in-house’ if they are registered as an RTO, or can partner with schools or other training providers. Within national regulations, a training organisation “must collect and analyse stakeholder and client feedback and satisfaction data on the services it provides as the basis for improvement” to maintain its status as an RTO (ANTA, 2005). This provides another avenue for business stakeholder representatives to

provide input into the training process at a local level. States remain responsible for ensuring that RTOs train to standards (AEI, 2006).²⁰

ISCs were funded for three years initially, with government funding secure to June 2007. Each ISC receives base funding of AU\$120,000 plus project funding, with a total of around AU\$250,000 (around £105,600) per ISC (Sung et al, 2006).

As the transition from ITABs to ISCs is relatively new, there is not much information on how well the new arrangement is working. Some problems have been noted. New ISCs made up of former ITABs have not changed substantially except in name. Their funding remains uncertain. The dispersed and varied nature of the VET sector makes it difficult for national bodies, including ISCs to involve all relevant stakeholders and for local employers to feel that they have a voice. State/territory level sectoral bodies (sometimes remnants of former ITABs) must coordinate with the ISCs to feed labour market information and needs up to the national level, and this is not always easy to achieve.

With respect to funding, some are sceptical that enough resources have been dedicated to the sectoral approach. And once ISC-developed standards become programmes at the state/territorial level, different funding arrangements come into play. States/territories can determine the number of hours of training that can be publicly funded. This means that while standards are national, programmes developed from them may have different content and not cover all of the same standards. This in turn reduces some portability of qualifications (Sung et al, 2006).

4.4 **Comparative lessons for England**

The Australian system combines flexibility in delivery with sectoral input into national educational programmes.

Key observations from Australia:

- Australia created a national system for VET policy, with a central role for sectoral bodies (ISCs), as a way to establish transferable qualifications across states/territories.
- Central to the operation of the system are national TPQs and designated RTOs to deliver them.
- There are multiple delivery mechanisms for provision: schools may offer programmes on their own, outsource provision to RTOs, and collaborate with RTOs, either as single schools or as part of a school clusters.
- RTOs can be schools, colleges, employers, and various public and private enterprises, which also provides flexibility in provision.
- National regulations require RTOs to collect and analyse stakeholder information and client satisfaction data to be used in programme improvement.

²⁰ This is in contrast to the Dutch system, where Knowledge Centres have responsibility for both developing qualifications and monitoring their delivery.

- Sectoral ISCs play an important linking role between employers and VET but can be overshadowed by other historically powerful institutions, such as the education system.
- Even with national sectoral bodies in place it can be difficult to coordinate, collaborate, and involve all relevant stakeholders so that labour market information and needs flow from local through state/territory to national levels.
- At the local level, schools or school clusters must collaborate with employers to set up SWL. Work placement coordinators need to be funded for this arrangement to succeed.

CHAPTER 5 **Comparative analysis and lessons**

A main objective of this study was to draw lessons from other countries that are implementing Diploma-like qualifications. The mechanisms and drivers for programme delivery and involvement of employers/business sectors in the process are of special interest. In this final chapter we draw together some broad lessons and observations from the three case studies. Given the short, three month time frame of the study, this analysis is by no means exhaustive. Rather, it suggests some areas or issues that might be explored further, perhaps within the context of the larger National Audit Office (NAO) study.

As with any comparative study, contextual differences between countries can limit transferability of findings and “lessons” from one country to another. Sometimes differences are so great that any attempt to derive transferable lessons appears fruitless. However, an understanding of the nature of the differences and how they affect implementation can also shed light on new possibilities or reveal new directions. It is in this spirit that we draw the following main lessons.

Curriculum, school organisation and funding affect programme delivery at the local level

The countries studied differ with respect to partnering or collaborating for education programme delivery. Many factors affect arrangements for programme delivery at the local level (summarised in Table 5.1), but some common themes emerge.

One factor is the nature of the curriculum on offer. Partnering is less common in The Netherlands, where the upper secondary education programme is dominated by a set of core subjects, with little specialisation within the pre-university, general secondary, and secondary vocational pathways. In addition, the government recently consolidated schools and regional training centres (ROCs). This had the effect of broadening provision in each institution (more types of programmes could be covered). This makes it more likely that a single school can offer the whole range of recognised subjects. Although schools may collaborate, it is not a strong feature in this system.

The Swedish curriculum also emphasises general education over specialist education within its 17 programmes/pathways, and most schools can offer the full range of courses. In addition, the modular nature of the curriculum provides further flexibility, as courses that make up each programme of study can be organised in different ways. Municipalities partner one another to ensure that the full range of programmes is available to students. Partnerships become necessary at the Advanced Vocational Level when the curriculum becomes more vocationally specialised.

Table 5.1: Factors affecting partnerships, employer involvement and system integration

	The Netherlands	Sweden	Australia	England
Factors affecting partnership for delivery	<p>Partnership is not the main feature</p> <ul style="list-style-type: none"> School/regional training centres (ROCs) consolidation Curricular emphasis on general education Funding to municipal level for students to age 18. 	<p>Partnership in some cases</p> <ul style="list-style-type: none"> Curricular emphasis on general education Modular curriculum supports flexibility at local level Municipalities sometimes partner with each other, or with independent schools Different providers partner at Advanced Vocational Level Funding to municipal level for students to age 20 Funding to establish "Idea Schools". 	<p>Partnership in some cases</p> <ul style="list-style-type: none"> Designated providers (Registered Training Organisations – RTOs) for Training Package Qualifications (TPQs) RTOs can be public or private institutions Non-qualified institutions may partner with RTOs Flexible. 	<p>Partnership in certain programmes</p> <ul style="list-style-type: none"> Partnership experience in some programmes (e.g. Pathfinders) Separate funding streams for 14–16 and post-16 creates complications League tables instil competition.
Factors affecting employer involvement	<ul style="list-style-type: none"> Strong tri-partite system at all levels Sectoral bodies have legal responsibility for setting standards, monitoring delivery Financial/tax incentives Sectoral bodies independent of Government Sectoral bodies drive changes to education. 	<ul style="list-style-type: none"> Strong tri-partite system at all levels Sectoral bodies independent of government Involvement of sectoral bodies regulated at national level Local employer/union involvement expected, not always regulated Sectoral bodies carry out labour market analyses to assess demand. 	<ul style="list-style-type: none"> Sectoral bodies responsible for setting national standards Sectoral bodies government funded Unions involved, but not equal representation States/territories monitor delivery Coordination across local/state sectoral bodies Sectoral bodies carry out labour market analyses to assess demand; information flow from local to national can be incomplete 	<ul style="list-style-type: none"> Voluntarist system Sectoral bodies government funded Government drives education reform Guidelines, not regulations, for stakeholder involvement Other non-sectoral bodies have influential roles.
Factors affecting system integration	<p>Stronger integration</p> <ul style="list-style-type: none"> Programmes mix academic and vocational learning Equal status of curricular pathways Knowledge Centres link to education groups Ratio of school/work-based learning adjusts to economic change Qualifications framework unifies Vocational Education and Training (VET) at different levels Sectoral bodies carry out labour market analyses to inform education provision. 	<p>Stronger integration</p> <ul style="list-style-type: none"> Programmes mix academic and vocational learning Vocational programmes incorporate work-based training Overlap between secondary and adult VET Sectoral bodies carry out labour market analyses to inform education provision. 	<p>Mixed integration</p> <ul style="list-style-type: none"> Australian Qualifications Framework (AQF) applies to all levels of VET Senior secondary certificate includes AQF/TPQs Sectoral bodies less powerful than education sector Federal system; states have own policies, agenda Local school/employer collaboration may require special funding Sectoral bodies carry out labour market analyses to inform education provision 	<p>Weaker integration</p> <ul style="list-style-type: none"> Separate academic and vocational qualifications Too soon to assess extent of integration with Diplomas "Schools" and "skills" now in different departments; could hamper integration.

The Australian vocational and technical education system is organised around national training packages and Registered Training Organisations (RTOs). Different types of institutions can become RTOs, including schools, colleges, employers, or other public or private entities. Institutions that are not registered to provide training packages must partner with an RTO in order to deliver some programmes. This system creates an incentive to form partnerships, and allows and supports different types of partnership arrangements.

Funding arrangements also affect partnership practices in The Netherlands and Sweden. In both countries funds are directed to municipalities that have autonomy and responsibility for education provision. In Sweden this includes provision up to age 20. Compulsory schooling in The Netherlands extends to age 18, at least part-time. Young people working part-time must still be engaged in vocational education, funded by the municipality.

The House of Commons Education and Skills Committee report (HC, 2007) suggests that two issues may hamper collaboration in England: league tables that instil competition among schools and funding arrangements that separate the 14–16 and 16+ age groups. Competition is not an issue in the other countries studied, so at least their systems do not discourage partnership. The “lessons” that emerge suggest that schools may have less need to partner when the education system emphasises general secondary education for both academic and vocational pathways and when a single funding stream covers the whole age range.

Social partnership relationships support employer involvement

A significant difference in the countries studied here concerns the strength of social partnership relationships. In The Netherlands and Sweden the social partners – government, employers, and employee organisations – are central to policy making in the education, training and employment arena. These tri-partite arrangements are historically strong and ensure equal representation among all parties. The tri-partite system encourages collaboration at all government levels. The Australian system supports government and employer collaboration (through the sectoral bodies), but unions do not have equal representation.

Employer/sectoral bodies as drivers in the education system

Another key lesson, related to the existence of social partnerships, concerns the role of employer or sectoral bodies in the overall structure. Sectoral bodies in The Netherlands and Sweden are independent of government and are highly influential drivers of education reform. The sectoral bodies in Australia are government funded, but have had a central role in the development of Vocational Education and Training (VET) for over a decade. Many factors in each country help support and maintain a strong sectoral position (see Table 5.1).

The Netherlands represents perhaps the strongest example of employer/employee engagement as Knowledge Centres are continuously involved in the development and maintenance of competency frameworks; they define occupational profiles that providers use to develop educational programmes. This relationship is backed up by specific financial incentives, as Knowledge Centres receive funds for development activities and results

(companies accredited, students recruited). Furthermore, tax incentives encourage employers to provide training.

Employer/sectoral bodies in Sweden are engaged in the development of national programmes by law. Their engagement at the municipal level is no longer mandated at the present time, but the historical cooperation among social partners in Sweden means that their involvement is virtually guaranteed.

The Australian government moved to a sectoral system in 1992, with government-created, publicly-funded Industry Training Advisory Boards (ITABs) (consolidated to Industry Skills Councils – ISCs – in 2004). The ITABs/ISCs were given central responsibility for developing Training Package Qualifications (TPQs) – the key device through which industry influences the secondary and adult VET system.

Compared to The Netherlands and Sweden, the Australian sectoral arrangement is a little more tenuous – for example ISCs depend on government funding, and RTOs are monitored by the states/territories. Even after a decade there are still issues about the level of employer involvement with respect to small and medium enterprises and the influence of state/territorial governments and a powerful education sector.

As noted in Chapter 1, the central involvement of Sector Skills Councils (SSCs) in defining the content of the Diplomas is a new mechanism for qualification development in England, and is part of the attempt to create a more “demand-led” system (Leitch, 2006). The Diploma reform arose from a government review of 14–19 education (The Tomlinson Report ²¹) not from employers/sectors.

In keeping with the voluntarist nature of employer participation in the education system as a whole, the activity of the SSCs in the development process is not highly regulated (e.g. there are guidelines, not requirements, for involving stakeholders in the development process) and other bodies have influential roles (e.g. the awarding bodies design the actual qualifications, which are in turn accredited by the Qualifications and Curriculum Authority, QCA). This complex development process, involving many other agencies and stakeholders, is bound to attenuate employer/sectoral influence.

Extent of integration between academic and vocational learning

The extent of integration of academic and vocational learning also appears to affect system operations in several ways. First, at the curriculum level, integration is evident in The Netherlands and Sweden with the emphasis on a general curriculum up to about age 16, irrespective of pathway/programme, with only minimum levels of specialisation. Specialisation occurs at upper secondary levels and in adult education and training.

Importantly, their VET systems are also integrated across secondary and post-secondary levels, enhancing system coherence. Employers/sectors who are involved in defining occupational profiles or standards can consider the whole spectrum of education and training, from secondary school through to adults.

²¹ Working Group on 14–19 Reform, *14–19 Curriculum and Qualifications Reform: Final Report of the Working Group on 14–19 Reform*, October 2004.

Similarly, in Australia, the Vocational and Technical Education (VTE) in Schools programme incorporates coursework that contributes to the general senior secondary certificate and towards the Australian Qualifications Framework (AQF) (including TPQ modules). At the post-secondary level, the TPQ/RTO structure also applies to training for adult workers.

In England there has been separation between academic and vocational education, with vocational education more firmly planted in apprenticeships and other National Vocational Qualifications (NVQs) pursued by post-16 learners. The Tomlinson Report recommended a more unified overarching Diploma structure, attainable at four levels from foundation to advanced. In that scheme, existing qualifications, such as GCSEs, A-levels, and NVQs would become components of Diplomas rather than free-standing qualifications. This reorganisation would have aligned the English system more closely to the countries discussed in this report. The government's counter proposal was to retain A-levels and GCSEs – the main academic qualifications – and to create Diplomas along 14 lines of learning at three levels (42 qualifications in all). By design, they stand somewhere between GCSEs/A-levels and apprenticeships, but whether they will serve to bridge the academic–vocational divide remains to be seen.

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APPENDICES

Appendix A: Methodology

In the initial stage of this three-month study the RAND Europe project team met with the National Audit Office (NAO) study team to agree on a template of questions to be used and to select the case study countries. Initially, the study was to focus on two countries, but a third was added about halfway through the project.

The template followed closely the categories set out in the Invitation to Tender (ITT). These included:

- the organisation of education systems in selected countries
- a description of the qualifications analogous to the Diploma, including their aims, structure, scope, funding, progression routes, and other relevant characteristics
- the approaches used to implement and embed relevant qualifications, especially the nature and level of employer involvement
- limitations to the comparison exercise.

The full template is provided in Appendix B.

The approach to selecting countries was pragmatic, as we did not look for “best” examples but for those that satisfied certain criteria. These included:

- significant vocational provision
- evidence about implementation and delivery practices, especially concerning the nature and level of employer involvement and delivery partnerships
- characteristics that a UK system might aspire to (e.g. higher participation)
- recommendation by the Leitch Review of Skills (2006) as having interesting practices.

Given the short time frame and limited budget for this research, the study also needed to focus on cases where data and information are readily available from publications and Internet sources.

This selection approach does not necessarily exclude countries with an education system that is structurally different to the UK or that adopts a different education culture. However, attention needs to be drawn to these differences as they illustrate the problems associated with making like-for-like comparisons. The UK, for example, is different from other countries in using qualifications as a main strategy for achieving education reform.

Another characteristic of the UK landscape is the voluntarist nature of government–employer relations when it comes to education policy, and the absence of “social partner” arrangements in Vocational Education Training (VET) policy. This is a key difference from other countries and one that is likely to affect the transferability of lessons about employer engagement from other countries to the English context. Whether or not it is possible to borrow lessons, it is still worth understanding how collaborative arrangements in other countries work.

The NAO initially selected The Netherlands as the first case country study, and after some initial research we suggested Sweden as the second country (high participation rates, with significant participation in a vocational route and a strong history of social partnerships).

During the course of the study it became clear that the organisation of the education system in these countries was quite different to the UK. Therefore, Australia was added as a third country because it was seen as meeting the original criteria and also providing a better parallel with the English system.

The main method for conducting this study was desk research. These sources included:

- documents from international organisations, such as the Organisation for Economic Co-operation and Development (OECD) and The European Centre for the Development of Vocational Training (Cedefop)
- government publications in respective countries
- databases such as the Eurydice database, ReferNet, country statistical bodies
- academic research studies
- comparative studies carried out by the Qualifications and Curriculum Authority (QCA), the Sector Skills Development Agency (SSDA) and others.

We also identified individuals known to us who have knowledge of the countries or who could direct us to others with that knowledge.

We held a mid-term meeting with the NAO to report on the progress of the work and to discuss initial findings. (It was at this meeting that the third country was added to the study.)

After this meeting the study team continued to develop the case studies. The last phase of the work was synthesis and analysis. The cross-case analysis was focused primarily on factors that affected delivery partnerships and extent of employer involvement.

Appendix B: Template for country studies on curriculum

1. General overview of the secondary education system

Aims

Institution

- Type, number and size of institutions involved in 14–19 education.

Courses/programmes

- Length, type and type of courses/programmes offered
- Flexibility within programmes.

Pathways

- Organisation of courses/programmes
- Links to other education pathways, including higher education
- Links to the labour market.

Qualifications

- Type of assessment, award structure.

Students

- Trends in participation since implementation of current arrangements.

2. Implementation and delivery of qualifications

Delivery methods

- Partnership arrangements.

Infrastructure

- Teaching arrangements
- Workplace connections.

Funding levels and mechanisms

Issues encountered in implementation

- Problems encountered and solutions.

3. Nature and level of employer involvement

- Development
- Delivery
- Partnerships.

4. Comparative lessons for England