



**Learning for Jobs
OECD Reviews of Vocational
Education and Training**

Germany

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GERMANY

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September 2010



ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

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Table of Contents

Summary: Strengths, Challenges and Recommendations	5
Strengths of the German VET system.....	5
Challenges confronting Germany’s VET system.....	5
Recommendations	6
Chapter 1. Introduction	7
1.1 The OECD policy review of Germany.....	8
1.2 The structure of the report.....	8
1.3 A snapshot of Germany’s VET system.....	9
1.4 Strengths of the German VET system.....	13
1.5 Challenges confronting Germany’s VET system.....	15
Chapter 2. Policy Recommendations	17
2.1 Transition from school to VET	18
2.2 Career guidance.....	27
2.3 Numeracy and literacy skills in the VET system	34
2.4 Assessment in dual VET and cooperation between learning places	39
2.5 Links to tertiary education.....	43
References.....	54
Annex A: Background Information	60
1 Biographical information	60
2 Programme of the review visit	61
Annex B: International and National Statistics	63
Annex References.....	69
Tables	
2.1 Participants and public expenses in selected measures of the transition system	21
2.2 Learning preferences by qualification level, 2003.....	24
2.3 Non-traditional access to tertiary education.....	44
2.4 University graduates and drop-outs by prior education	50
B.1 Comparison non-traditional routes to higher education	66

Figures

1.1 Age-specific demographic trends in Germany.....	16
2.1 Distribution of new entrants to the three sectors of the vocational education system	19
2.2 Forecast change in demand of labour force by education level 2003-2020.....	46
2.3 Share of employed, unemployed and inactive in 2008	47
2.4 Returns to education by education level, sex and region in 2006.....	48
B.1 The German education system	63
B.2 Relative unemployment of young adults.....	64
B.3 Returns to higher education by field of study	65

Boxes

1.1 <i>Learning for Jobs</i> , the OECD policy review of vocational education and training.....	8
1.2 Ten guidelines of the Innovation Circle on VET	13
2.1 The German ‘transition system’	18
2.2 Best Practices Clearinghouse – Texas, United States	23
2.3 Case management in Switzerland.....	23
2.4 Certificate of Practice in Norway	25
2.5 Career guidance in Switzerland	29
2.6 Competency test in Baden Württemberg's <i>Hauptschulen</i>	30
2.7 Innovative provision of up-to-date labour market information	31
2.8 Final VET exams in Switzerland	42
2.9 Examples of flexible study programmes.....	52

ACKNOWLEDGMENTS

The review of Germany took place through two visits to Germany in November 2009 and February 2010. The OECD is grateful to the national coordinators Arne Simon and Lena Arends for their work in providing information and advice and organising the visits. We would also like to thank the many people in different parts of the country who, during our visits, gave their time to welcome us at their schools and other institutions and answered our questions.

Summary: Strengths, Challenges and Recommendations

This review of vocational education and training (VET) in Germany is part of “Learning for Jobs”, the OECD policy study of VET, a programme of analytical work and individual country reviews designed to help countries make their VET systems more responsive to labour market needs. The review of Germany assesses the main challenges faced by the VET system and presents an interconnected package of five policy recommendations. Each recommendation is described in terms of the challenge, the recommendation itself, supporting arguments, and issues of implementation.

Strengths of the German VET system

- Vocational education and training is deeply embedded and widely respected in German society. The system offers qualifications in a broad spectrum of professions and flexibly adapts to the changing needs of the labour market.
- The dual system is especially well-developed in Germany, integrating work-based and school-based learning to prepare apprentices for a successful transition to full-time employment.
- A major strength of the dual system is the high degree of engagement and ownership on the part of employers and other social partners. But the system is also characterised by an intricate web of checks and balances at the national, state, municipal, and company levels that ensures that the short-term needs of employers do not distort broader educational and economic goals.
- The VET system as a whole is well-resourced, combining public and private funding. Germany has maintained strong financial support and maintained the apprenticeship offer for the VET system even during the crisis.
- Germany has a well-developed and institutionalised VET research capacity, including the Federal Institute for VET, (*BIBB*), and a national network of research centres that study different aspects of the system to support continuous innovation and improvement in the VET system.

Challenges confronting Germany’s VET system

- The transition system, now serving nearly as many young people as the dual system, suffers from undue fragmentation and an absence of transparency. Despite the very substantial resources devoted to the system, too few programme participants make a successful transition into the regular VET system.
- Career guidance seems highly variable across the *Länder*, with no single agency responsible for assuring delivery of quality information and guidance services to all students.

- Some students leave compulsory school with weak core academic skills. The VET system is not currently organised to ascertain whether this is in fact a problem or, if so, to address it.
- The evaluation of dual system students at the end of their apprenticeship is dominated by the Chamber exam. Because their school performance does not count in the Chamber exam, students may not take their schooling seriously, thereby limiting their ability to participate successfully in some form of tertiary education.
- Although Germany has recently opened more pathways from upper-secondary VET to tertiary education, to date very few VET graduates have made use of those pathways.
- Shrinking cohort numbers due to demographic decline is providing an important contextual challenge.

Recommendations

1. Create a coordinating committee for the transition system within each *Land* to improve co-operation between stakeholders and make transition offers more transparent. Evaluate the cost-effectiveness of individual transition measures and roll out the most promising initiatives to the whole country.
2. Reform the career guidance system to deliver well-informed guidance to all. Fix lead responsibility for career information and guidance in a single governmental agency. In the longer run, consider structural reform of the dual system to facilitate effective career choice.
3. Assess the literacy and numeracy skills of all students entering the transition system, and those entering apprenticeships without a school leaving certificate from a *Realschule* or *Gymnasium*. Provide explicit basic skills instruction for those in need of remediation. Place greater priority on general education and broad academic skill development in the part-time vocational schools.
4. Make inclusion of the school mark in the final certificate mandatory and include an explicit assessment of literacy and numeracy skills in the final school exam. In the longer run, merge the Chamber exam and the school exam into a single final assessment. Strengthen collaboration between schools and employers through an integrated assessment process.
5. Open access to tertiary education further and address transition barriers perceived by students. Design adequate guidance, induction and financial support measures for less academically trained people wanting to attend university. Promote dual universities and dual programmes at regular universities and encourage more flexible, part-time university offers and the recognition of prior learning and experience.

Chapter 1

Introduction

This chapter describes the OECD policy study of VET, the review of Germany, summarises the main features of the German VET system and sets out an assessment of its strengths and challenges.

1.1 The OECD policy review of Germany

This is one of a series of policy reviews of vocational education and training (VET) in OECD countries (see Box 1.1).

Box 1.1 *Learning for Jobs*, the OECD policy review of vocational education and training

For OECD member countries, a well-skilled workforce is one of the main supports for prosperity and growth. Some skills come from general education, but specific occupational skills are also needed. Typically initial vocational education and training systems have a big part to play in supplying these skills. These systems are now under scrutiny to determine if they can deliver the skills required. Launched in 2007, *Learning for Jobs*, the OECD policy review of vocational education and training is designed to help countries with this task.

The OECD is conducting individual policy reviews in Australia, Austria, Belgium (Flanders), the Czech Republic, Germany, Hungary, Ireland, Korea, Mexico, Norway, Sweden, Switzerland, the United Kingdom (England and Wales), and the United States (South Carolina and Texas). Short reports on Chile and the Peoples Republic of China have also been published. Canada, Denmark, Finland and the Netherlands also provided voluntary financial contributions.

All reviews and working papers are published on the website. Working papers include reviews of previous literature, PISA data on VET, and a study of the effect of the economic crisis. The initial draft of the comparative report was published on the OECD website in late 2009. The final comparative report is as a book in September 2010.

For further information, publications and contacts, see: www.oecd.org/edu/learningforjobs

The review methodology comprised the following steps. An OECD secretariat team visited Bonn/Germany on 24 June 2009 to meet members of the Federal Ministry of Education and Research (BMBF) and the Standing Conference of the *Länder* (KMK) for an initial discussion. A further visit took place on 16-20 November 2009 to make an assessment of the main strengths and policy challenges. Then the German authorities were invited to complete a questionnaire focusing on the policy challenges. Equipped with the responses and other background information, the OECD team returned on 1-5 February 2010 for a policy visit, conducting further interviews in order to develop policy recommendations (see Annex A for the programme of visits). This review presents the OECD recommendations, with supporting analysis and data.

The review deals with a deliberately limited set of issues where it could draw on international experience or could otherwise usefully add value to the domestic policy debate. The review concentrates on VET at secondary level, in particular the dual system, but also looks at the transitions into the VET system after upper secondary school and from VET to tertiary education.

1.2 The structure of the report

This first chapter places the German review in the wider context of the OECD policy study of VET, presents the structure of the report, describes the main features of German VET system, and examines its strengths and challenges. The second chapter proposes policy recommendations.

Each policy recommendation is set out as:

- *The challenge* – the problem that gives rise to the recommendation.
- *The recommendation* – the text of the recommendation.
- *The supporting arguments* – the evidence that supports the recommendation.
- *Implementation* – a discussion of how the recommendation might be implemented.

1.3 A snapshot of Germany's VET system

The role of VET in the education system

In Germany, compulsory schooling starts at age 6 and lasts for 9-10 years (depending on the *Land*). After four years of primary school, students typically get tracked into three different education pathways (though structures vary across *Länder*): *Gymnasium*, with a demanding academic programme culminating in a university entrance qualification; *Realschule*, with a less demanding academic programme leading to a lower secondary diploma signifying solid academic skills; and *Hauptschule*, with a programme designed for those deemed to have limited academic ability or interests and culminating in a school-leaving certificate. *Realschule* and *Hauptschule* graduates typically enrol in a vocational pathway (including the transition system) at age 15 or 16 (see Figure B.1 in the Annex). In 2007, 43% of students pursued general upper secondary education, whereas 57% entered vocational education (OECD, 2009, Table C1.4). As in other countries with strong dual systems, tertiary graduation rates are low in Germany, at 23% of the cohort compared to an OECD average of 39% (OECD, 2009, Table A3.1).

Of upper secondary students in vocational pathways 75% enrol in the dual system (see below), the rest in full-time VET schools (*Berufsfachschulen*, *Fachschulen* and *Schulen des Gesundheitswesens*) that last for 2-3 years and might include an internship. In addition to VET qualifications, some of these schools offer the option to obtain school leaving certificates (*Hauptschulabschluss*, *Realschulabschluss* and *Fachhochschulreife*). A majority of students in these full-time VET schools are female (reflecting the fields of study) - while in apprenticeships the gender balance is the opposite. Trade and technical schools (*Fachschulen*) offer programmes at tertiary-B level that last for 2 to 4 years while *Fachhochschulen* provide vocationally orientated programmes at tertiary-A level. Some *Länder* offer additional VET programmes at tertiary-A level such as the vocational academies in Bavaria, Baden-Württemberg, Saxony, Berlin and Thuringia which combine teaching in schools and training in companies.

Germany has various programmes designed to facilitate transition into VET (*Übergangssystem*) for those who have difficulties – for example in coping with the requirements of an apprenticeship. During a basic vocational or pre-vocational year (*Berufsgrundbildungsjahr* or *Berufsvorbereitungsjahr*) students receive career guidance and acquire the basic vocational skills designed to help them either obtain an apprenticeship, or to enter a full-time school-based VET programme or to start working but without receiving a full qualification. Institutionally diverse, these transition courses can be taught in vocational schools (*Berufsschule* or *Berufsfachschule*) or in private institutions and firms. They have increased in volume over time (Cortina *et al.*, 2008, p. 556, Figures 13.2 and 13.3).

The structure of the dual VET system

Dual VET programmes are currently offered in 349 trades and can take between two and three and a half years (for a full list of qualifications see: www.bibb.de/tools/aab/aabberufeliste.php). Unlike the full-time VET schools which require a lower secondary diploma (*Realschulabschluss* or *mittlere Reife*) students only have to complete compulsory education. But in practice 43% of apprenticeship beginners have a lower secondary diploma (*Realschulabschluss*), 33% a *Hauptschule* certificate, 21% have a university entry qualification and only 3.5% lack any diploma (Friedrich, 2010, p. 148).

Apprentices typically spend 3-4 days a week in a training firm which provides practical training based on a training plan following guidelines set out in the ‘ordinances’ for each qualification. The ordinances regulate the duration of the apprenticeship, describe the profile of the profession, and set out final exam requirements. The apprentice earns a salary which increases every year and is on average one third of the starting wage for a skilled worker. Small companies that cannot provide comprehensive training may form training alliances (*Ausbildungsverbünde*) with other firms. Practical training is complemented by teaching in part-time VET schools where students spend 12 hours per week (in some cases the courses are organised in block form). In the part-time schools students receive one third general education and two thirds occupationally-specific education according to a framework curriculum (*Rahmenlehrplan*) issued for each profession by the Standing Conference of Ministers for Education and Cultural Affairs (*Kultusministerkonferenz, KMK*) for vocational subjects and by the *Länder* for general subjects.

There are two types of VET teachers, one for theoretical subjects, the other for practical training. Teachers of theoretical subjects need a university qualification or equivalent, including instruction in teaching practice. Teachers for practical training at VET schools do not need a diploma in higher education but typically have a background in the relevant occupation as a foreman, skilled worker or qualified craftsman. In addition to courses in teaching practice, the teachers need to take pedagogical seminars (Hippach-Schneider *et al.*, 2008, pp. 41-43). In-service training is mandatory for teachers and takes place in seminar form in state-run training institutes.

The requirements for in-company trainers are set out in the national VET Act (sections 28-30) and the Regulation on Trainer Aptitude (AEVO). Trainers must have a qualification in the training occupation and knowledge of education theory. A mandatory trainer aptitude test (*Ausbilder-Eignungstest*) was suspended in August 2003 in order to encourage companies to offer training but reintroduced on 1st August 2009 (Cedefop, 2009). There is no statutory obligation for trainers to participate in further training.

Steering and funding of VET

The Federal Ministry of Education and Research (*Bundesministerium für Bildung und Forschung, BMBF*) has overall responsibility for VET strategy. It is responsible for the Vocational Education and Training Act (*Berufsbildungsgesetz, BBiG*), last reformed in 2005, publishes an annual VET report, funds and steers the German Federal Institute for VET (*Bundesinstitut für Berufsbildung, BIBB*) and is responsible for programmes to improve VET. It also has responsibility for the in-company training part of the dual system. Individual qualifications are endorsed by specialised ministries (often the Federal

Ministry for Economic Affairs and Technology, *Bundesministerium für Wirtschaft und Technologie, BMWi*) but need the agreement of the BMBF.

The *Länder* have sole responsibility for the part-time VET schools of the dual system and the full-time VET schools. They design the school curricula, train and pay the teachers and are responsible for legal supervision of the Chambers (*Rechtsaufsicht*). Due to this primary responsibility of the *Länder* for cultural and educational matters (*Kulturhoheit*) there is substantial variation across states with regard to the organisation and content of teaching in the school part of the dual system.

The social partners are closely engaged in the design and provision of VET. They are involved in the development and updating of the ordinances (formally issued by the Ministry of Economic Affairs and Technology) and determine apprenticeship salaries through collective wage negotiations. The Economic Chambers are responsible for providing advisory services to participating companies and supervising company-based training. The Chambers also register apprenticeship contracts, assess the suitability of training firms and monitor their training, assess the aptitude of VET trainers, provide advice to training firms and apprentices, and organise and carry out the final exams.

The responsibility for funding vocational schools lies with the *Länder* (mainly teacher salaries) and local authorities (equipment, infrastructure), while companies bear the costs of training in the workplace. In some sectors, companies have created a general fund to which all companies pay contributions and through which the costs for the apprenticing institution are covered, while in other sectors each company bears its own costs. Overall, the biggest share of the costs for dual system VET falls to training firms. In 2007 employers spent EUR 14.7 billion on VET (net costs including apprentice salaries but after productive gains) while the *Länder* spent EUR 2.9 billion on VET schools. The Federal government and the Employment Service (*Bundesagentur für Arbeit*) provide additional VET funding.

Some government financial support is available for training firms. Companies employing a trainee (beginning between July 2008 and December 2010) who has been searching for a training company for at least one year without success can receive a bonus of up to EUR 6 000 (Hirschner, 2008). In addition, an internship programme (*Einstiegsqualifizierung*) has been created for young people who have not found a training company by 30 September in any year, are socially disadvantaged or have a learning disability. The company takes on an intern for 6-12 months on a trial basis, receiving a subsidy covering the intern's wage (EUR 212 per month) and social contributions (EUR 106 per month (IHK Hannover, 2009a).

Incentives can also be provided at *Land* level. Lower Saxony offers financial support to companies employing trainees from insolvent companies or firms that take part in intercompany training centres and agreements (IHK Hannover, 2009b). Bavaria gives loans at favourable rates to companies training disadvantaged youth. In addition, a programme called "Fit for work 2008" is made up of different financial support schemes for creating additional trainee places, for participating in intercompany training, for subsidising transportation for trainees, and for young people who have completed practical classes (*Praxisklassen*) (IHK München und Oberbayern, 2009).

The current labour market context

While Germany has suffered from the current economic crisis, unemployment has risen less than initially expected and, at 7.5% in June 2010¹, is still below the 2007 level of 8.4% (OECD, 2010), and is now below the OECD average. It remains higher than that of the best OECD performers such as Austria, the Netherlands, Norway, Switzerland and Korea, all of which have remained below 5%. The unemployment rate of those aged 15-24 rose from 9% in 1998 to 10.4% in 2008 but is still below the OECD average of 12.4%.²

In 2002-2005, a major reform of the unemployment services was pursued in Germany, aimed at improving the efficiency of the Employment Agency in bringing the unemployed back into the labour market. The last reform step (Hartz IV) led to the merging of federal-level benefits for long-term unemployed and local-level welfare services under the umbrella of the Employment Agency. Unemployment payments are now attached to certain obligations related to efforts finding a job and are limited to a period of 18 months. The reforms also include some support for further vocational education through education vouchers (*Bildungsgutschein*) administered by the Employment Agency.

Recent VET policy developments

In 2006, the federal German government commissioned the ‘Innovation Circle on VET’ (*Innovationskreis berufliche Bildung*) a group of 19 senior representatives of employers, trade unions, academia and the *Länder*, to study initial VET and to come up with suggestions for the future development of the system (see Box 1.2). To increase the provision of apprenticeship places, the Federal Government signed an Apprenticeship Pact (*Ausbildungspakt*) with the Chambers of Commerce and Industry and initiated a new programme called JOBSTARTER. Initiatives to improve the permeability between VET and tertiary education include the project ‘Counting vocational competences towards programmes of higher education (*Anrechnung beruflicher Kompetenzen auf Hochschulstudiengänge, ANKOM*) and the creation of a National Qualification Framework. For a detailed presentation of recent policy initiatives see Hippach-Schneider *et al.* (2008).

1. www.pub.arbeitsagentur.de/hst/services/statistik/000100/html/monat/201006.pdf.

2. www.oecd.org/document/2/0,3343,en_2649_39023495_43219330_1_1_1_1,00.html.

Box 1.2 Ten guidelines of the Innovation Circle on VET

1. Encouraging completion of school education - improving training maturity.
2. Optimising training preparation for the disadvantaged – reorganising funding structures.
3. Optimising transfers – securing paths to company training.
4. Strengthening the occupation principle – making vocational education and training more flexible.
5. Broadening the training basis – making effective use of training.
6. Enhancing transfer opportunities – securing the employability of vocational skills.
7. “Second chance” education – promoting qualifications for young adults.
8. Greater openness towards Europe – improving mobility and recognition.
9. Strengthening dual training in European comparison – securing potential on the international education market.
10. Providing a basis for future-oriented vocational training policy – strengthening cooperation between industry, science and politics.

Source: BMBF (2007), Ten Guidelines for the Modernization and Structural Improvement of Vocational Education and Training. Innovation Circle on Vocational Education and Training, BMBF, Berlin.

1.4 Strengths of the German VET system

The greatest strength of the German approach to vocational education and training is without doubt the dual apprenticeship system and the principles it embodies. This system, which is common to a number of European countries in slightly different forms, has understandably attracted global admiration and many attempts to export the approach. One central principle is that of complementarity between school and work-based learning with more theoretical types of learning in school balancing more practical learning in the workplace. The two elements are mutually reinforcing: theory facilitates a well-grounded approach to practical problems; while practice in turn supports theory by providing a continuous flow of real world examples and applications. Such mutual reinforcement works best when a student attends both environments on a regular basis.

A set of key institutions underpin the dual system. Employers, through the Economic Chambers, have a longstanding and well-established role in preparing the curriculum, supervising the provision of workplace training, and devising the assessment regime. This role effectively commits employers to the apprenticeship system, and binds employer support into the apprenticeship qualifications. The framework therefore ensures not only a strong pedagogical approach in the integration of school and workplace learning, but also the institutional structure which support employer offers of workplace training and recognition of qualifications. A virtuous circle is established, linking a good status of VET with student willingness to pursue apprenticeship training, employer commitment to apprentices, and good labour market returns from apprenticeship training. It is no surprise that VET tends to have a higher status in Germany than in many other countries, and that the powerful structures of the dual system have been applied successfully to higher level technical trades which would involve tertiary education in other countries.

The proposals for reform of the system advanced in the latter part of this report should be set against the background of the need to sustain the strengths of the current system. To summarise, those strengths are:

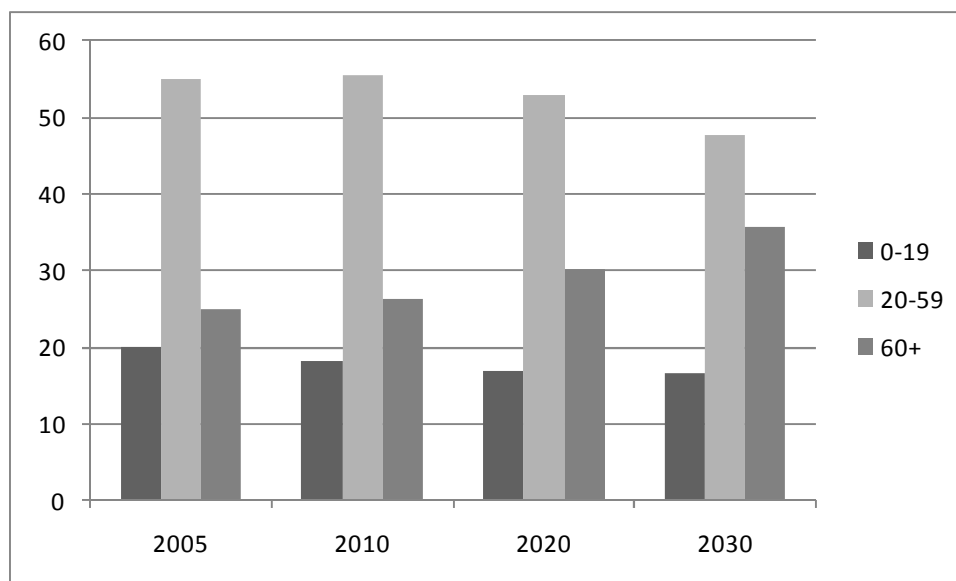
- Vocational education and training is deeply embedded and widely respected in German society. It prepares young people for a wide spectrum of professions. The qualifications obtained continue to have currency in the labour market, and the system has remained sufficiently flexible to phase out unwanted programmes and bring on line new programmes in response to the emergence of new fields or occupations.
- The dual system is especially well-developed in Germany, integrating work-based and school-based learning to prepare apprentices for a successful transition to full-time employment (Quintini and Manfredi, 2009). As a consequence, youth unemployment is very low by international standards (see Figure B.2 in the Annex). The distinctive pedagogy for the school-based component of the dual system, is heavily problem-based and links theory and practice in innovative ways.
- A major strength of the dual system is the high degree of engagement and ownership on the part of employers and other social partners. But the system is also characterised by an intricate web of checks and balances at the national, state, municipal, and company levels that ensures that the short-term needs of employers do not distort the broader educational and economic goals of the apprenticeship system. The dual system also benefits from a clear division of responsibilities between the federal government, the states, and the private sector, a division enshrined in statute and carefully worked out over time.
- The VET system as a whole is well-resourced, combining public and private funding to support not only the dual system and full-time vocational schools but a wide range of transition programmes for young people needing additional support before being able to enter full-time training. Germany has maintained strong financial support for the VET system despite the economic recession, and employers have maintained the offer of apprenticeship places to counteract rising youth unemployment – and possibly also in anticipation of future labour shortages due to demographic change.
- Germany has a highly respected federal research institute focused on the VET system (the BIBB), and a national network of smaller research centres that study different aspects of the system. Consequently, there is a much stronger investment in formative research designed to support continuous innovation and improvement in the German system than in other countries. This is yet another indication of the priority placed on vocational education and training in Germany, and a key contributor to the continuing health and vitality of the VET system.

1.5 Challenges confronting Germany's VET system

While the German VET system has many strengths, a number of challenges remain. Those challenges are:

- The transition system, now serving nearly as many young people as the dual system, suffers from undue fragmentation and an absence of transparency. Despite the very substantial resources devoted to the system, too few programme participants make a successful transition into the regular VET system.
- Given the early age at which German students are expected to choose a profession, universal access to high quality career information and guidance is essential. Career guidance, however, is variable in quality and coverage with no single agency responsible for assuring delivery of quality information and guidance services to all students.
- The very weak PISA results for some *Hauptschule* students suggest one reason why many young people fail to make a successful transition from compulsory school to VET. The evaluation of dual system students at the end of their apprenticeship is dominated by the final Chamber exam that determines whether they receive their formal VET qualification. Because their school performance does not count in the Chamber exam, students may not take their schooling seriously, thereby limiting their ability to participate successfully in some form of tertiary education.
- Although Germany has recently opened more pathways from upper-secondary VET to tertiary education, to date very few VET graduates have made use of those pathways. Expanding participation in tertiary education (as already attempted by the German government) is important not only for reasons of equity and social mobility, but also to sustain Germany's ability to compete in a global economy in which knowledge, information, and technological innovation will play an increasingly important role.
- A major contextual challenge in Germany is the demographic change leading to shrinking cohort sizes (see Figure 1.1 below). This phenomenon already has a severe impact, in particular in the Eastern part of Germany where schools have had to be merged because of too small class sizes.

Figure 1.1 Age-specific demographic trends in Germany
In %



Source: Statistisches Bundesamt (2006), *Bevölkerung Deutschlands bis 2050 - 11. Koordinierte Bevölkerungsvorausberechnung*, Statistisches Bundesamt, Wiesbaden.

Chapter 2

Policy Recommendations

VET has a major role in the German education system, attracting almost 60% of a typical age cohort at upper secondary level. The dual system in which 75% of VET students enrol is a highly effective way of imparting a wide range of occupational skills and integrating young people into the labour market, attracting global admiration. But the system also faces several challenges. Too many students fail to manage the transition from compulsory schooling to vocational programmes, and many have inadequate basic numeracy and literacy skills. Despite recent initiatives, the transition from VET into tertiary education remains difficult.

Most of these challenges are widely recognised in Germany, and measures are in hand, both at federal and Länder level, to address them. To support the reform process, we advance five interconnected recommendations. First, we propose the creation of co-ordinating committees for the transition system in each Land, linked to the systematic appraisal of the cost-effectiveness of individual measures. Second, a strengthened career guidance system is essential and consideration should be given to the establishment of a pre-apprenticeship year as part of the dual system. Third, greater attention should be given to the literacy and numeracy skills of VET students. Fourth, the school and workplace elements in the final assessment of the dual system should be integrated. Fifth, a range of measures are necessary to improve access to higher education.

2.1 Transition from school to VET

The challenge

A certain proportion of each cohort does not manage the transition from compulsory schooling to VET

In 2008, 7.5% of students left compulsory school without a minimum school leaving certificate (*Hauptschulabschluss*); an outcome more common for boys and those with a migrant background (Autorengruppe Bildungsberichterstattung, 2010, p. 90). Over 80% of these students enter the ‘transition system’ (see Box 2.1). For those aged 20-29 the proportion of individuals without formal VET qualifications (*Ungelerntenquote*) was highest among young people who failed to complete lower secondary education with the minimum school leaving certificate (84.5%), followed by young people with a *Hauptschulabschluss* (30.8%) (Friedrich, 2010, p. 266).

Box 2.1 The German ‘transition system’

To provide education offers for those students who do not manage the transition from lower secondary education to the VET system directly through normal routes, a ‘transition system’ has developed. It has three main functions: to help young people to achieve apprenticeship-readiness, to enable them to obtain some form of school-leaving qualification, and to act as a bridging measure until they are able to enter regular vocational training.

BMBF (2009a) identified 193 individual programmes, 21 at federal level the rest at *Länder* level. They vary in length, management arrangements and target group. In 2006, 37% of students in the transition system enrolled in the *Berufsfachschulen*, one or two year programmes in full-time VET schools which do not lead to a VET diploma but offer the opportunity to obtain the intermediate secondary school leaving certificate (*Realschulabschluss*). Other options include a pre-vocational year (*Berufsvorbereitungsjahr*) or a basic vocational year (*Berufsgrundbildungsjahr*) as well as a great variety of programmes and courses offered by the Employment Agency and different private education providers (Autorengruppe Bildungsberichterstattung, 2008, p. 97 and p. 165).

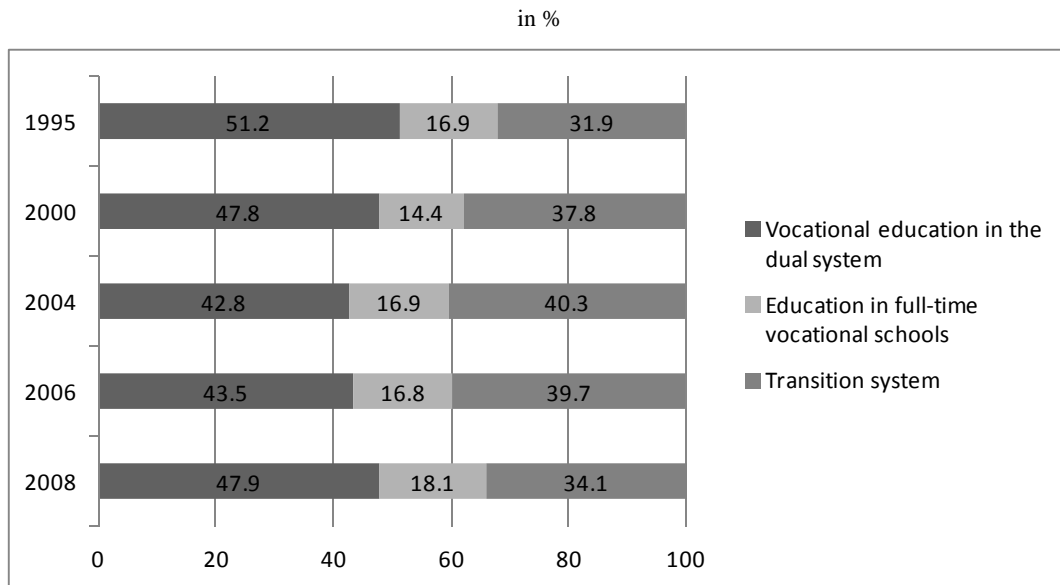
Further measures to facilitate the transition include career guidance, support in finding an apprenticeship place, special programmes to make young people apprenticeship-ready, and apprenticeship programmes in workshop settings (*außerbetriebliche Einrichtungen*) rather than with employers.

Between 1995 and 2006 the proportion of new entrants to the VET system who go straight to an apprenticeship decreased while the proportion enrolling in some form of transition offer has increased. But in 2008 the number of entrants into the transition system decreased for the first time since 2000 (see Figure 2.1). Employer offers of apprenticeship training are limited; even though the gap between new and old *Länder* is closing over time (Autorengruppe Bildungsberichterstattung, 2010, E.2). In 2008/09 the number of registered open apprenticeship places (at just over 17 000), was higher than the number of students seeking an apprenticeship place (at just under 10 000), but many would-be apprentices do not appear in the official count³ of those seeking an

3. These numbers are better captured in the ‘extended definition’ (*erweiterte Definition*) of apprenticeship demand and supply (Autorengruppe Bildungsberichterstattung, 2010, p. 101).

apprenticeship (Ebner, 2009). These include students who go back to the school system or complete a year of voluntary work in the social sector because they cannot find an adequate apprenticeship place and students who enrol in the transition system because they are classified as ‘not apprenticeship-ready’ by the Federal Employment Agency (*Bundesagentur für Arbeit*). Students with migrant backgrounds are at particular risk (Autorengruppe Bildungsberichterstattung, 2010, p. 99).

Figure 2.1 Distribution of new entrants to the three sectors of the vocational education system



Source: Autorengruppe Bildungsberichterstattung (2010), *Bildung in Deutschland 2008, Ein indikatorengestützter Bericht mit einer Analyse zu Perspektiven des Bildungssystems im demographischen Wandel*, Bertelsmann, Bielefeld.

The under-qualified have very poor chances on the labour market

Over a long period unemployment amongst the ‘under-qualified’ (those without a school leaving certificate or only a weak *Hauptschule* certificate) has risen sharply, reaching 26% in 2005, almost three times as high as for people with a VET qualification (9.7%) (Friedrich, 2009, p. 214). Labour market demand for the under-qualified is predicted to decrease further (Bonin *et al.*, 2007, p. 81, see also Figure 2.2 in Section 2.5).

Solid evaluations of transition measures are not always available

Management of the transition programmes, many of which are offered by private providers, is very fragmented. Since the transition system is at the intersection of education, labour market and social policy, many actors are involved and responsibilities are not always clear.

Data on enrolment and costs are only available at an aggregate level and labour market outcome data are sparse. Programme evaluations indicate variable success (Autorengruppe Bildungsberichterstattung, 2008, p. 168; Beicht and Ulrich, 2008a; for a

compilation of references on the issues see Linten and Prüstel, 2010). An overview evaluation of the transition system (BMBF, 2009b) remains at quite a general level.

The new national education panel study (*Nationales Bildungspanel*) promises some good data, including information on education choices and careers, influence of family and migrant backgrounds, returns to education and development of competences over a lifetime. Data will be collected at important transition points (in early childhood education, primary, secondary and higher as well as further education, and the transition from VET and tertiary education into work) and first results from the samples will be available from 2013 onwards. But samples will be too small and not sufficiently representative to evaluate specific programmes.

Recommendation

Create a coordinating committee for the transition system within each *Land* to improve co-operation between stakeholders and make transition offers more transparent. Evaluate the cost-effectiveness of individual transition measures and roll out the most promising initiatives to the whole country.

Supporting arguments

There are five arguments to support the recommendation: first, demographic change increases the urgency of reform; second, the system currently in place is both costly and inefficient; third, Germany has recognised the challenge and initiated a promising reform process on which further efforts can build; fourth, co-operation between the different stakeholders involved is essential for success; fifth, identifying and rolling out successful initiatives is an effective way to improve the quality of transition offers.

Demographic decline and an increase in dependency rates heightens the urgency of reform

Due to a low birth rate, the number of young people is decreasing and is projected to continue shrinking in the future (see Figure 1.1). This changing context is likely to have a twofold impact: first, employers will have less choice among apprenticeship candidates. Second, demographic change means that with relatively fewer people entering the labour force, it will be essential to make the fullest use of the potential of each individual (including those who currently do not manage transition) in the labour force.

The current transition system is both inefficient and costly

Current arrangements to take care of students at risk of leaving the system with very poor qualifications are problem-ridden. The transition system has been characterised by stakeholders as being not a system but a ‘jungle’, with a confusing variety of isolated measures that too often fail to lead to successful outcomes.

On average, transition participants attend 1.3 programmes and spend a total of almost 17 months in the transition system. Often transition system programmes do not lead to a full qualification. Relatively few of those exiting a transition measure immediately begin a training course leading to a full qualification (Beicht, 2009). Only a third find an apprenticeship place and many become unemployed (Baethge, Solga and Wieck, 2007).

The transition system is costly – though the exact costs are hard to estimate due to the fragmentation of the system and the number of providers involved. According to a study by the Bertelsmann Foundation (2008), in 2006 the Federal Government, the *Länder*, local authorities and the Federal Employment Agency together spent EUR 5.6 billion on measures to integrate young people into the labour market. But such measures also yield benefits for the government and society, the study argues, including saving in the long-term cost of unemployment and social security benefits. Other cost estimates have been published in the national education report (Autorengruppe Bildungsberichterstattung, 2008, see Table 2.1). The study estimates average costs of EUR 5 800 per pupil for VET programmes in full-time schools, including the basic vocational year and EUR 6 900 per pupil for the pre-vocational year.

Table 2.1 Participants and public expenses in selected measures of the transition system

School type/measure	2005		2006	
	participants	direct cost (in million EUR)	participants	direct cost (in million EUR)
VET schools that do not provide a certificate ¹	281479	1633	282751	1640
VET schools (pupils without apprenticeship contract) ¹	85312	495	86800	503
Basic vocational year ¹	50137	291	47937	278
Pre-vocational year ²	77667	536	71907	496
Entry qualifications for young people ³	12224	40	20041	69
Pre-vocational course at the Employment Agency ^{3,4}	107735	771	99863	681
Total	614553	3765	609299	3668

1. Estimated cost (average cost estimated EUR 5.800 per pupil and multiplied with number of participants)

2. Estimated cost (average cost estimated EUR 6.900 per pupil and multiplied with number of participants)

3. Estimated stock of participants (average of a given year)

4. Comprises course cost, training subsidies for handicapped and non-handicapped participants in non-handicapped-specific courses

Source: Various sources, quoted in Autorengruppe Bildungsberichterstattung (2008), *Bildung in Deutschland 2008, Ein indikatorengestützter Bericht mit einer Analyse zu Übergängen im Anschluss an den Sekundarbereich I*, Bertelsmann, Bielefeld.

Germany has recognised the problem and initiated a reform process

Germany has made an impressive commitment to tackling the challenges. In 2008 it launched “*Perspektive Berufsabschluss*” (www.perspektive-berufsabschluss.de), an initiative designed to a) improve the coordination of transition offers at the regional level and b) help those people who have no or partial qualifications to obtain a full qualification. The government has also underlined its determination to tackle the transition problem (CDU, CSU and FDP, 2009, p. 62).

Consequently, the BMBF has developed an ambitious project ‘Education Chains’ (*Bildungsketten*) whose goal is to abolish isolated transition offers, connect the various steps in a person’s education career and support those who have difficulties at the transition points.⁴ The initiative aims to coordinate key stakeholders in a structured

4. The website of the initiative can be found at: www.bmbf.de/de/14737.php.

approach to transition. Assessment according to Germany-wide standards will take place at 7th grade. Following a screening procedure, two strategies are envisaged: inside schools to support students in acquiring core basic skills and outside schools where a coach supports the young people in managing the transition to VET (each coach being responsible for up to 20 students). The OECD supports this initiative; the recommendations below provide additional evidence-based advice on how to put these strategies into action.

Fostering institutionalised co-operation between different stakeholders involved is essential

To increase transparency, clearer responsibilities and better co-operation between the different actors involved are necessary. While there will always be many stakeholders, the regulation of the transition system should be more explicit in assigning responsibilities – as recommended in the evaluation of the transition system (BMBF, 2009b).

Transition programmes need to be directly managed at local level close to the clients following the principle of subsidiarity. To create a link between a central locus of responsibility (and funding) and local management, a coordinating committee for the transition system should be established in each *Land*. Such a body would provide a forum for stakeholders to meet and exchange information and ensure that local structures do not fragment. It could also have the function of evaluating transition measures and feeding back the information to a central body overseeing and (at least partly) funding the Education Chain reform initiative.

Some initiatives show promising results and could usefully be implemented elsewhere

Many initiatives are in place but only some of them work. Knowledge about what works is currently poorly developed and mostly concentrated at local level. Identifying which programmes are most successful and cost-effective and rolling them out to the rest of the country would take advantage of an already existing pool of best practice. Some countries have established effective information platforms to share examples of best practice in a decentralised way. Box 2.2 shows an example of a ‘Clearinghouse’ in the US State of Texas.

Box 2.2 Best Practices Clearinghouse – Texas, United States

The Best Practices Clearinghouse (BPC) was established by the Texas Education Agency in 2009. It supports schools in meeting the educational needs of all students by providing a centralised location for schools to share evidence-based best practices. The BPC features “Best Practice Summaries” from districts and schools that are consistently high performing or that have demonstrated improvement in student performance. Programmes and practices focus on a range of issues (*e.g.* drop-out prevention, college and career readiness) at various levels of education.

The BPC aims to provide practitioners with information that will allow them to adapt best practices for local implementation. Best Practice Summaries offer detailed information, such as training needs, cost components, lessons learned and contact information. As of 2009/10, newly added best practices are assigned to one of four BPC evidence types, describing the strength of evidence and the generalisability of results.

Source : www.teabpc.org

Implementation

Diverse needs in students will require a coordinated but flexible approach

Diverse factors cause students to drop out. They include migrant background, low-qualified parents, poor marks in lower secondary school, living in urban areas and early pregnancy (Beicht and Ulrich, 2008a; 2008b). Diverse needs require a flexible approach including programmes targeted at certain groups (such as students with migrant background) and tailor-made individual programmes. Switzerland offers a promising model of individual case management (see Box 2.3).

Box 2.3 Case management in Switzerland

The Swiss case management system is designed to support students who are at risk of dropping out on transition from lower to upper secondary education and leaving school without a secondary qualification. It was created in 2006 to contribute to reaching the target of increasing the number of students with a secondary II qualification from 89% to 95% by 2015. It aims to co-ordinate different actors and institutions involved in the support of at risk students and can be implemented during the phase of professional orientation at the end of lower secondary school, during the transition phase from lower to upper secondary schools or during basic vocational education before a post-compulsory qualification is obtained.

Case management is preventive rather than reactive in nature. Students at risk are first identified and their development monitored. Identification takes place at 7th and 8th grade in compulsory school or later, if students cannot find an apprenticeship or drop out of an apprenticeship or school-based VET course. A network of competent actors (the case managers) is then mobilised to support the student in different tasks leading up to a full post-compulsory qualification. Support is tailor-made to individual needs but can include help in choosing a pathway or finding an apprenticeship place upon finishing compulsory education, in getting back to education after drop-out as well as a range of additional support measures for young people with more general educational and social problems. The duration of case management is variable and depends on individual needs.

The VET Offices in the Cantons (*Berufsbildungsämter*) have been responsible for the implementation of case management since 2008. They had to develop a concrete project proposal for approval by the Federal government (*Bundesamt für Berufsbildung und Technologie, BBT*) who funds the initiative and are regularly monitored.

Source: BBT (*Bundesamt für Berufsbildung und Technologie*) (2007), *Case Management*. Grundsätze und Umsetzung in den Kantonen, BBT, Bern.

In 2009 the German Federal Employment Agency launched a pilot project in 1000 schools to establish a system of case managers (*Berufseinstiegsbegleiter*) to support young people in their transition from school to VET.⁵ The ‘Education Chains’ initiative is designed to develop this approach further. These tailor-made programmes should be based on a structured assessment of needs. An initiative undertaken in Nürnberg suggests that when stakeholders agree to collaborate at a local level and coordinate resources to monitor and track students, outcomes improve (see www.schlau.nuernberg.de).

The dual approach with workplace experience helps motivate students to obtain a diploma

Although there are no formal entry requirements for apprenticeships, students who drop out of secondary school or leave school with very poor marks are at a serious disadvantage in the eyes of training firms (BMBF, 2009a). More effort should therefore be invested in making sure students leave secondary school with a diploma and an adequate grade average. Evidence from the EU shows that adults with low qualifications tend to be distinctive in their learning preferences, learning more easily in an applied setting than abstractly or independently (see Table 2.2).

Table 2.2 Learning preferences by qualification level, 2003

(EU-citizens plus Norway and Iceland, aged 15+, n=18 007) in %

Preferred forms of learning	Highly qualified	Low qualified
Searching for information on something the person is interested in	38	12
Course at school, university or further education institution	33	15
Leading or training other people	25	10
Observation and analysis of a situation	23	18
Doing something new by using new machines or equipment	25	29
Doing things together with friends	25	27
Training at the workplace	16	23
Observation how other people do things and imitating them	11	23

Source: Data from Eurostat, Eurobarometer.

When learning for the school-leaving certificate (*Hauptschulabschluss*) and workplace experience are combined, at-risk students appear to do better than when placed in a strictly school-based programme. Solga and Kohlrausch (2009) found that those pursuing a programme including practical elements in the teaching towards the *Hauptschulabschluss* had relatively positive outcomes in terms of both academic results and in finding an apprenticeship place afterwards. Similar evidence has emerged in Norway, which offers a programme called *Praksisbrev* (Certificate of Practice) to students with poor academic results (see Box 2.4). Such approaches should be used to motivate at risk students.

5. www.bmas.de/portal/29380/2008__11__04__berufseinstiegsbegleitung.html.

Box 2.4 Certificate of Practice in Norway

Norway is currently piloting a measure for students at risk of dropping out of school. The Certificate of Practice (*Praksisbrev*) is a two year practice-based programme following completion of lower secondary school, targeted at pupils with poor motivation. The initiative enables them to obtain a certificate after two years of practice-based upper secondary training (instead of two years in school followed by two years of apprenticeship). It allows the target group to complete upper secondary education and training and gain formal competencies at a lower level than the final trade - or journeyman's certificate.

The Certificate of Practice can be a stepping-stone for further upper secondary education and training since the candidates must also follow courses in Norwegian, maths, and social sciences. However these three subjects are vocationally oriented and the training is executed according to curricula designed specifically for the project. The students can choose among sixteen subjects in the sectors of agriculture, fishing and forestry, restaurant and food processing trades, building and construction, health care, technical and industrial production and services and transport.

Early results from an evaluation of the pilot have been largely positive. Students, teachers and trainers are mostly positive about the measure and dropout rates seem to be very low. 65% of the students were motivated to continue their education and training in order to obtain the full upper secondary certificate. In 2011 Norway will decide whether to offer this programme as a permanent feature of the regular national education system.

Source: Utdanningsdirektoratet (2008), *National ReferNet report on progress in the policy priority areas for Vocational Education and Training – NORWAY*, Utdanningsdirektoratet, Oslo; Markussen, E., et al. (2009), *Evaluering av forsøk med praksisbrev*, NIFU STEP, Oslo.

Offers to support regular apprenticeships could be extended

The best solution for those at risk would be an apprenticeship place leading to a proper qualification.⁶ But employers are reluctant to accept candidates with poor school results. Some support is available for firms who take on these problem cases as apprentices (Hirschner, 2008). Employers who take on a person who has been searching for an apprenticeship place without success can apply for the *Ausbildungsbonus* - a bonus funded by the Federal Ministry for Labour and managed by the Public Employment Office of up to EUR 6.000.⁷ In addition, a programme on entry qualifications (*Einstiegsqualifizierung*) offers students the opportunity to get to know about an occupation in a company and acquire relevant skills in order to prepare for a subsequent

6. Building a functioning apprenticeship system is a difficult task and takes a long time. Therefore, efforts should be undertaken to maintain the system and the level of employer engagement in Germany. Providing practical training in workshop settings is to be limited, partly because it is not of the same quality (no soft skills which can be learnt in a real-life work-environment, potentially out-of-date machines) and certificates are not as accepted in the labour market. The Austrian VET review recommends reducing the offers of *Überbetriebliche Ausbildungsstätten* which have developed into a parallel system and risk to damage employer incentives to provide apprenticeship places (see Hoeckel, 2010). In a similar vein, the workshop-based VET offers (*Berufsausbildung in außerbetrieblichen Einrichtungen*) should not be extended too widely. The evaluation of the transition offer commission by the BMBF (2009a) comes to a similar conclusion (p. 69).
7. www.bmas.de/portal/28544/ausbildungsbonus.html.

apprenticeship, in the same company if possible. Companies offering such a scheme can get approximately EUR 300 per month from the Federal Employment Agency.⁸

The evaluation study of transition measures (BMBF, 2009b) recommends a systematic extension of ‘apprenticeship assistants’ programme, which matches would-be apprentices and employers and helps students to become apprenticeship ready. Some industrial sectors are already offering special support in the preparatory phase for would-be apprentices (*e.g. Start in den Beruf*, a project in the chemical industry). The ‘Education Chains’ initiative plans to extend successful examples and foresees a coach to help match the interests of the apprentices and the company and to find a replacement if an apprentice contract is ended prematurely.

A more radical possibility, spelt out under section 2.2 below, would be to establish a pre-apprenticeship year for all those entering the dual system other than those who already have the *Abitur*. The creation of this year would serve the interests of career exploration and help to develop general skills as help to cushion the transition into apprenticeship for all VET students. As proposed in section 2.2, this option would need to be carefully piloted to establish its impact.

Better help is also needed for students who experience difficulties during their apprenticeship. Existing support programmes (*ausbildungsbegleitende Hilfen*) could be improved and extended. These programmes include topics which go beyond the usual apprenticeship content as well as socio-pedagogical mentoring and are designed to keep students in the regular system and ensure that they do not drop out. Several pilots have yielded positive results (Gericke, 2003). The ‘Education Chains’ initiative recognises the importance of supporting apprentices and plans to offer continued support during the regular VET system, including through *ausbildungsbegleitende Hilfen*, to reduce the likelihood of apprentices dropping out and to signal to employers that they are not on their own with weak students. However, the OECD team heard complaints about the difficulties employers encounter in applying these measures.

Recognition of prior learning and modules make the system more flexible to integrate weaker students

The ‘Education Chains’ initiative also aims to link unconnected parts of the system and allow for more coherent education careers leading to a full recognised qualification. A structured system of skills recognition (acquired for instance in transition measures) has the potential to bring more people into the regular dual VET system and while methods to ensure recognition of prior learning are already in place (BMBF, 2008) they could be extended.

Another way to make it easier for students with poorer academic results to acquire a full qualification is to break up the apprenticeship qualification into modules, some of which might be accomplished in the transition system prior to entering an apprenticeship. Modules also support more flexible apprenticeships, allowing students to prolong study times and to acquire qualifications step by step. They may also allow those lacking full qualifications to pursue further studies (*Nachqualifizierung*) while being employed and earning money. Modules have been developed in some parts of the system (www.good-

8. For an example of the support for an entry qualification, see: www.hwk-koeln.de/Service/01_Formulare_Downloads/Aus_und_Weiterbildung/Berufsausbildung/01_Einstiegsqualifizierung_EQ/EQ-Merkblatt.pdf.

practice.de/bbigbausteine/) and a project of training modules (*Ausbildungsbausteine*) for repeat applicants (*Altbewerber*) launched in 2007 is currently being evaluated (Hippach-Schneider and Toth, 2009, p. 16.). Of course modularisation also has risks – by granting those who do not complete a course some credit they may sometimes actually encourage drop-out and employers apparently fear that it will result in them getting semi-skilled workers who are not employable in the long term. Nevertheless, the potential of modules should be further explored to provide the otherwise unskilled a minimum qualification.

Reform of the transition system should be based on principles of mutual obligation

Students must also assume their share of responsibility. While nobody can be forced to take up education offers young people might be encouraged to opt for education by withdrawing benefits if they do not do so. In the Netherlands, school attendance is compulsory for those who have not reached the basic qualification level up to the age of 18. Since October 2009 under the Investing in Youth Act (*Wet Investeren in Jongeren*) those under 27 years are no longer entitled to social assistance (except for some special circumstances). Instead, each municipality is obliged to offer these young people either a job or some form of education or a combination of both. So the right to social assistance has been replaced by the right to learn and work. In Germany, unemployment support is already linked to certain obligations. A similar approach might be conceivable for young people not in employment, education or training.

2.2 Career guidance

The challenge

Career guidance is essential to support student choice

Following Watts (2009) career guidance includes: first, **career education** in which students learn about the world of work through classroom teaching, work experience and visits to employers; and second, **individual career guidance** on a one-to-one basis, providing specific advice on career decisions. This advice may be either pro-active (mandatory interviews for all) or reactive (on demand). Both activities are underpinned by **career information** on courses, occupations and career pathways. Such information is increasingly web-based, both supporting career services in schools and providing a direct source of information to students.

For VET students, guidance is particularly important at two stages: prior to entering the VET system (to choose a programme) and within VET programmes (to choose a job and plan the next stages of their career, including further education and training options). Moreover, initial career guidance should be comprehensive, providing guidance not only on VET but also on academic pathways. (Lack of awareness of routes into tertiary education might be one reason why VET students do not take up tertiary study offers - see section 2.5).

There is evidence that some students in Germany lack sufficient information and guidance to make informed choices. Many students say that they find it difficult to choose an occupation because they lack information on the world of work and relevant practical experience (BMBF, 2009a, p. 66). 40% of students say they do not know what to do after

graduating from compulsory school (Hippach-Schneider, Krause and Woll, 2007). In 2006, about 20% of apprentices ended their contract before completing the apprenticeship, citing among other reasons the realisation that they had made the wrong choice of profession (BMBF, 2009c).

But current career guidance provision is fragmented and of variable quality

Career guidance is available in many forms - in schools, from the Employment Agency and social partner organisations (for an overview see OECD, 2002; Niedlich *et al.*, 2007). Locally there are examples of good practice (such as the *Berufswahlpass* developed in several *Länder*). But as with the transition system, multiple actors are involved and responsibilities are fragmented. The Federal Employment Service, one of the agencies charged with responsibility for career guidance, is understandably focused primarily on the need to get unemployed adults back into work, especially given the recent reform of the system of social and unemployment benefits, but that limits its capacity to guide young people in schools and apprenticeships.

A comprehensive review commissioned by the BMBF (Niedlich *et al.*, 2007) confirms that career guidance is highly variable in quality, the system lacks transparency and is reactive rather than proactive in nature. Surveys of employer satisfaction with career guidance services provided by the Federal Employment Agency also show rather negative results: less than 10% are ‘very satisfied’ with those services while close to 30% state that they are ‘very dissatisfied’ (Ebbinghaus, 2009).

Recommendation

Reform the career guidance system to deliver well-informed guidance to all. Fix lead responsibility for career information and guidance in a single governmental agency. In the longer run, consider structural reform of the dual system to facilitate effective career choice.

Supporting arguments

The recommendation is supported by two arguments: first, career guidance needs reform following five principles (outlined below); second, German students are required to make choices about their profession earlier than in most other countries, underpinning the importance of guidance, but also raising the question of whether some modification of the dual system - both to postpone and better ground the choice of target occupation - might be helpful.

Principle 1: Initial career guidance should be independent but integrated and delivered pro-actively to all

Those responsible for career guidance – either formally or informally – may lack objectivity because of their institutional location. If education and training institutions themselves provide information and career guidance to potential students, they have incentives to direct students towards programmes offered at their own institution even if this is not in the students’ interest.

It is not realistic to expect all students to seek advice from an independent external career guidance institution on their own – especially given the fragmentation of career guidance offers and lack of clear responsibilities. Teachers know their students best but often do not have the resources and the experience to provide a full range of career guidance services themselves. Teachers should therefore primarily serve as a link between the individual student and the plethora of outside institutions providing career guidance. This ensures i) that all students receive initial career guidance and ii) that the different elements of a career guidance system (including services for psychological counselling or labour market and career information from the offices of the Employment Service) are integrated.

In Switzerland career guidance combines independence and integration. It is a mandatory subject in schools, whose job is to provide all students with basic information and guidance. This is followed by more detailed information delivered by an independent professional organisation (see Box 2.5), conforming very well with the recommendations of the OECD review of career guidance policies (OECD, 2004).

Box 2.5 Career guidance in Switzerland

In Switzerland attending career guidance and information sessions is mandatory for students in compulsory secondary education. In years 7, 8, and 9 of lower secondary school, students learn in their own schools about their career options; all teachers receive some training in labour market opportunities so that they are knowledgeable about the labour market. Then students in those years are introduced to the main institutions for guidance and counselling, the centres for occupational information (*Berufsinformationszentren, BIZ*).

The *BIZ* are free-standing institutions providing unbiased information and counselling for all levels of the VET system. In these centres individuals can see generalist counsellors, and may then be directed to specialists with more knowledge of specific institutions. They work closely with schools, and indeed may provide some services at the school rather than at the *BIZ* site.

Niedlich *et al.*, 2007, criticise career guidance in Germany as being primarily reactive in response to problems. Career guidance should be proactive and introduced at an early stage and in addition to an assessment of students' preferences and dispositions. It can usefully be linked to evidence of student performance, including tests of literacy and numeracy. A variety of tests providing teachers, parents and even students themselves with evidence on students' preferences, talents and needs are already used in some parts of the country. Assessment centres as used in all of Baden Württemberg's *Hauptschulen* (see Box 2.6) could be extended to the whole of Germany.

Box 2.6 Competency test in Baden Württemberg's *Hauptschulen*

In 2008, Baden Württemberg introduced a competency test for students at *Hauptschule* and special needs schools (*Kompetenzanalyse Profil Assessment-Center*). Students are tested at 7th grade to establish their competency profile, and strengths and weaknesses beyond narrow school requirements. The aim is to prepare students for the transition into VET, to provide career guidance and orientation early on and thus to prevent drop-out.

The competency test uses a set of standardised individual and group tasks to evaluate 5 fields of competencies using 21 criteria. These include methods and planning competencies, results orientation, problem solving and presentation skills. In addition, the tests assess cultural competencies (language, dealing with numbers, IT and the internet), practical skills (dexterity, orderliness, work speed and accuracy), social competencies (communication skills, ability to deal with conflict, criticism and teamwork), and personal competencies (reliability, flexibility, independence, ability to concentrate).

Students have to fill in a self-evaluation form and discuss the test results with the teachers who supervise the testing procedure and establish the student's competency profile. Teachers receive training to be able to use the competency measurement tool adequately. The project is accompanied by scientific evaluation and experts who support the schools that are introducing the test.

Baden Württemberg is also working on a plan to provide individual support based on the results of the competency test at school. Curriculum material has already been created to support the plan.

Principle 2: Links to the labour market need to be established for teachers, schools and individual students

While school teachers are in a position to identify students' competency profiles and needs for individual support, they are often not adequately equipped to convey the realities of working life to students – having typically spent all their professional life in education institutions except for the mandatory eight week work placement (*Betriebspraktikum*) during their university studies. Teachers therefore need support if they are to fulfil this requirement. To this end, secondary schools should establish partnerships with local employers, facilitating visits to the school by employers as well as visits and internships with employers for both students and teachers. Short internships should be mandatory towards the end of compulsory school, following existing practice in most parts of the country. Research studies suggest that young people particularly value information on jobs and careers if obtained in a real workplace and through contacts with working people (Transition Review Group, 2005), so that the impact of short work placements on young people can be substantial.

Principle 3: Up-to-date labour market information should be available

If student choice is to be responsive to labour market demand, then career information sources need to be regularly updated to identify emerging occupations and areas of skills shortage, as well as areas where there may be an oversupply or redundant skills. Ideally, labour market information should be available to students electronically in a form that is both portable and easy to update. Some countries have developed innovative methods to equip students with such information (see Box 2.7 for an example from Mexico).

Box 2.7 Innovative provision of up-to-date labour market information

The Mexican Ministry for Education has developed “Career guidance in my memory” (*Orientación vocacional en mi memoria*), a USB stick distributed to students and also available through the Internet. It includes tools that help students to identify their strengths and interests, information on institutions offering particular programmes, and data on the labour market outcomes.

Thanks to data on outcomes collected by the Mexican Labour Market Observatory (*Observatorio Laboral Mexicano*), students can compare different career options, exploring whether graduates work in an occupation related to their training, how much they earn and their average working hours. Although currently it does not cover all occupations and levels, it is an interesting example of a user-friendly, interactive guidance tool, which takes advantage of new technology.

Source: SEMS (2010), *Orientación profesional en mi memoria*, Subsecretaría de Educación Media Superior, www.orientacionvocacional.sems.gob.mx.

Some countries have developed very good online tools where all relevant labour market information can be accessed. In the US, South Carolina has created an online tool where students can access a wide range of well presented information on education and career pathways.⁹ The Czech Republic has created a website which provides information on educational options and their labour market outcomes in one place (www.infoabsolvent.cz). Website users can learn about the full range of programmes provided by secondary and tertiary institutions, including entry requirements, qualifications, and the jobs these programmes lead to. Information is presented about employment conditions and employee satisfaction in different occupations. This is supported by data on employment/unemployment rates and salary by educational attainment and field. Web users can also learn about various occupations by watching video material available on the website, and read about employer needs and their expectations in terms of the skills and competencies of potential recruits.

Principle 4: Career guidance personnel should be professional and appropriately prepared

The quality of provision depends to a large extent on the skills of career advisors since information on course options and later careers is complex and needs interpretation. The OECD Review of Career Guidance Policy in Germany (OECD, 2002, p. 15-16) points out that while career guidance staff in the Employment Service receive systematic training in the Service’s own *Fachhochschule*, training for guidance personnel in schools is much patchier. Today, there is no standard qualification requirement for career guidance personnel, but they commonly receive their training in pedagogy or social pedagogy with a strong focus on care for people with psychological and social problems (Niedlich *et al.* 2007). It is doubtful that these studies provide them with sufficient knowledge to give advice on types of job, career prospects, and learning opportunities. Germany shares this challenge with many other OECD countries and different countries report that professionals expected to deal with both psychological counselling and career

9.

www.scpathways.org/Masterweb/content/SC/dispatch.aspx?category=career&page=main&major=guest&minor=career.

guidance tend to find their time dominated by the former (Fretwell and Watts, 2004). In addition, if career guidance is combined with psychological counselling students may be less willing to be seen knocking on a counsellor's door lest their colleagues and teachers think they have serious personal problems.

Another common problem, at least in OECD countries, is that career counsellors may lack knowledge of the VET system, and may therefore favour general education (Watts, 2009, p. 5). Therefore, preparation and further training of career guidance personnel should explicitly cover the VET system.

Principle 5: Quality controls should be in place to ensure that the provision is adequate

Only some parts of the guidance system are funded and controlled by the government and legislation concerning guidance is weak, with no certification or evaluation of guidance provision at federal level. Quality standards exist but their implementation is the responsibility of the individual provider. Quality control of career guidance offers should therefore be more firmly established.

In Saxony, the Ministry of Education and the Employment Service signed a contract on career guidance to regulate responsibilities. Career guidance is mandated in Saxony's curriculum from 7th grade onwards, with every school required to develop its own implementation plan. Attention to quality is made explicit as the school implementation plans are evaluated and schools whose guidance programmes meet standards receive a certificate of quality from the government. This model is appealing and other *Länder* might wish to consider pursuing a similar route.

Students are required to choose their profession very early on

Germany asks young people to choose a specific occupation or profession in which to be trained at an earlier age than most other countries. Because students entering the dual system are required to choose among 350 different occupations and then to enter into a multiyear contract with an employer, young people and their families need the best possible information and guidance about careers to inform the selection process.

But even with good quality career guidance, students need the opportunity to experience professions more concretely. To give students the opportunity to get acquainted with a professional field before making a final choice, Germany might consider restructuring the first year of the dual system into one which would allow time both to explore a variety of career options and enhance their general academic skills. This would both help to ensure good initial choices of career, and reinforce the general skills necessary to support lifelong learning and career development. In a world where jobs are constantly changing, and professional skills need to be continuously enhanced and remade, this would be advantageous. Detailed options are pursued below.

Implementation

Reforms can be based on initiatives which have already been launched to improve career guidance offers

The government is committed to improving career guidance early on in schools (CDU, CSU and FDP, 2009, p. 62), especially for migrants and young people who search for an apprenticeship place. To implement this commitment, the government has launched a new project to foster quality development and professionalism in career guidance (*Offener Koordinierungsprozess zur Qualitätsentwicklung und Professionalität in der Beratung*). Evaluations of the results are not yet available.

In 2008, the BMBF initiated a set of pilot programmes for professional orientation for students in *Hauptschulen* and some special needs schools (*Berufsorientierungsprogramm*, www.bibb.de/berufsorientierung). These programmes aim to put young people in touch with the world of work before they have to choose a profession. Students spend 80 hours in a workshop (*überbetriebliche Berufsbildungsstätte*) where they can try out three different occupations under the guidance of a trainer. The students receive a certificate that records individual preferences and skills, training maturity and possibly need for special support (BMBF, 2009c, p. 28). The initiative is also supposed to facilitate the recruitment of apprentices by employers. The BMBF will spend EUR 15 million per year on this three-year initiative. The providers are funded EUR 300 per student by the government, with another EUR 300 in matching funds required from sponsors (employers or local government) and the providers themselves.

The ‘Education Chain’ initiative also foresees a strengthening of career guidance, including a focus on job search and application skills so that reform of career guidance would need to be linked to this initiative. Research studies suggest that career-related skills such as self-awareness and understanding of career opportunities are associated with student performance - higher achievers are more likely to seek advice and information and have clearer ideas about their progression. Students opting for VET tracks may have fewer career-related skills than those in more academic tracks, so potential VET students might be particularly dependent on the career guidance received. Students at risk of dropping out of the system have even greater needs (Transition Review Group, 2005). At the same time it is important to avoid stigmatising guidance as something which is only provided to those who have ‘problems’.

Address fragmentation and fix responsibility for career guidance in a single governmental agency

As with the reform of the transition system, guidance reform should address the problem of fragmentation. Germany should fix lead responsibility for career information and guidance in a single governmental agency at federal level (as already recommended by the OECD, 2002, p. 17) to facilitate the development of common standards, while engaging the *Länder* in the design of these standards and the strategies to implement them. It should define clear roles and responsibilities and establish procedures whereby all students receive basic guidance from teachers who also have the responsibility to put students in touch with independent and competent outside agencies.

The size and federal structure of Germany makes one centrally managed delivery system inappropriate. Nevertheless, structures could be improved by combining a central

locus of responsibility with decentralised agencies for implementation. While central control and oversight helps to ensure professionalism, quality and full coverage, decentralised delivery can better take into account local needs and resources.

Facilitate choice by organising occupations into clusters and offering a pre-apprenticeship first year

One way of making career choices easier would be to postpone choice while using the time to develop career management and basic skills. Some OECD countries - for example Denmark - already organise their VET system this way and offer a general first year to students where they can try out different elements of a professional cluster before committing themselves to a specific occupation. In the longer run Germany should consider working towards merging the 350 professions currently on offer into professional clusters and designing curricula so that students can start off with a very general pre-apprenticeship year in their professional field and specialise only in subsequent years – as already recommended by the Sachverständigenrat (2009).

Under this proposal, students entering the dual system would initially spend one year in a VET school to facilitate transition (see section 2.1) and to improve their basic skills (see section 2.3) with internships and workplace experience in different professions. In some respects this would be akin to the Austrian approach of a pre-apprenticeship year in a polytechnic school; only in this case it would make more sense to house this year in the existing (normally part-time) vocational schools. This would need to be a compulsory element of the dual system (otherwise it would quickly become marked as just another transition measure) but there should be an option for older students with higher academic attainments (*Abitur*) to skip this additional year. Towards the end of this year the students would seek employers to take them on as apprentices.

Employers would take advantage of such an arrangement to recruit students who are apprenticeship-ready and already in command of basic practical skills. They would also have a valuable additional year of general psychological maturity. Students prepared in such a way should be less likely to drop out during the first year.

Clearly there would be some additional costs arising from this extra year, but they would be offset by substantially reduced expenditure in the transition system, reduced drop-out, and hopefully returns from better prepared apprentice entering the system. Introduction, of this measure on a pilot basis would facilitate a proper evaluation.

2.3 Numeracy and literacy skills in the VET system

The challenge

Some students leave compulsory school with weak numeracy and literacy skills

While German 15 year-olds generally perform slightly better on PISA assessments than the OECD average, these results vary significantly by school type. The results for *Hauptschule* students raise significant concerns about whether many *Hauptschule* graduates have a sufficiently strong foundation of literacy and numeracy skills to begin working life. Their reading scores seem especially problematic: an average score of 431 against the OECD average score of 492. While a 431 score puts a student at level 2 on

PISA's five-level scale and indicates that the student is capable of basic reading tasks and making low-level inferences, the bottom quartile of *Hauptschule* students have scores that are much more worrisome. These students score below the average student in Mexico, the bottom-scoring OECD country, and are capable of only the most rudimentary reading tasks. Students who can only read at this level are at serious risk of not being able to meet the demands of any VET programme with a schooling component, not to mention the demands of most 21st-century workplaces.

We do not know the degree to which weak academic skills disadvantage students in the search for apprenticeship contracts. We do know, however, that the majority of *Hauptschule* graduates are unable to find apprenticeship places and are shunted into the transition system. At the same time, approximately one-third of apprentices come from the *Hauptschule*, which suggests that the dual system cannot assume that all of its students have a solid floor of literacy or numeracy skills. Indeed, an analysis of the PISA scores of Austrian apprentices suggests that nearly 40% are at proficiency level 1 or below. Austrian students typically enter the VET system at 15 and have therefore had one less year of schooling than their German counterparts, but this finding nonetheless should prompt VET policymakers in Germany to want to know whether they have a similar problem.

Of additional concern to policymakers should be the views of employers. An employer survey carried out in 2009 by the employer association of Rhineland-Palatine¹⁰ suggests that employers are increasingly dissatisfied with the qualifications and skills of young people leaving school to start an apprenticeship. Three quarters of the respondents state that they carry out tests to assess student skills and therefore have a solid base of evidence to support their concerns. They complain primarily about weak reading, writing, and mathematics skills, but also about what they perceive as a decline in some of the softer skills, *i.e.* communication, problem-solving, and conflict resolution.

The VET system does not see its role in repairing a lack in numeracy and literacy skills

Germany is rightly proud of its pedagogical strategy for embedding academic skill development into the teaching of more technical or occupational skills. The OECD team heard many reports from practitioners as well as researchers about the power of this pedagogical approach, and came away believing that this is in fact one of the strengths of the German system. This positive assessment, however, is tempered by two concerns. First, in the absence of baseline assessment data about literacy and numeracy skills, especially for *Hauptschule* graduates, it seems possible from the PISA evidence that at least some fraction of apprentices lack the foundational skills to benefit fully from this innovative pedagogy. More important, it seems highly likely that a substantial fraction of young people who wind up in the transition system have significant literacy problems that limit their ability to enter the regular VET system.

Second, the OECD team did not come across evidence to suggest that VET teachers were trained to diagnose basic skill deficits or given training in how to address such deficits when identified. This problem is hardly unique to Germany, for it is only recently that policymakers in other countries have recognised the need to focus attention on problems of adolescent literacy and to train lower and upper secondary school teachers to

10. www.lvu.de/news/single/d/2009/06/02/schule-muss-auch-auf-den-beruf-vorbereiten-1/.

address them (Carnegie Corporation, 2009). But the first step is the need to acknowledge that there might in fact be a problem and that the VET system needs to take responsibility for addressing it. Interviews conducted during the visits suggested that even this first step may be a challenge.

Academic skills generally seem under-valued in the dual system

Apprenticeship countries like Germany face a special challenge in ensuring that all young people receive a solid enough general education not only to equip them with the knowledge and skills to thrive over a lifetime in an ever-changing economy, but also to be knowledgeable and active participants in the civic and cultural life of their communities. Because most young people in these countries leave full-time schooling after only nine or ten years, part-time vocational schools have a special responsibility to provide continuing general education alongside the more occupationally-specific education that is their main focus. In Germany dual system students receive only 160 hours annually of general education, and that time is divided among the subjects German, English, sports, and economics or social science. By contrast, Danish dual system students spend between 30% and 50% of their time in vocational school.

In addition to the relatively meagre time allocation for general education, the OECD team heard that one downside of the active and generally positive role that employers play in the German system is that students sometime get the message that it is only their performance at the worksite that matters, and that they therefore need not take their schooling that seriously; the separation of the school and work-based assessment may contribute to this problem as argued in section 2.4 below. This raises the larger question of how to ensure that the broader purposes of schooling are respected in a system principally focused on preparing young people for work. This is a question with no easy answer, but the growing interest among national and state policymakers in strengthening the pathways that combine vocational and tertiary education suggests one possible response.

Recommendation

Assess the literacy and numeracy skills of all students entering the transition system, and those entering apprenticeships without a school leaving certificate from a *Realschule* or *Gymnasium*. Provide explicit basic skills instruction for those in need of remediation. Place greater priority on general education and broad academic skill development in the part-time vocational schools.

Supporting arguments

There are four arguments to support this recommendation: first, strong basic skills may reduce dropout and make candidates more attractive to employers; second, solid academic skills will enhance a young person's prospects for mobility and long-term labour market success; third, academic skills are likely to depreciate more slowly over a working life than vocational skills; fourth, solid academic skills will facilitate the path to higher education and lifelong learning.

Strong basic skills can reduce dropout and make candidates more attractive to employers

The linkage between weak basic skills and school dropout is well established in the international research literature. For example a study of 18 further education colleges in the United Kingdom (Basic Skills Agency, 1997) found that offering remedial basic skills support to students dramatically reduced drop-out rates. What is less clear is the relationship between weak basic skills and the ability to survive the transition from compulsory school to an apprenticeship, a concern given that one in five apprentices terminate his or her training contract within the first year. In a 2001-02 BIBB survey of young people who discontinued their training contracts, about 20% of respondents cited reasons related to their schooling, including feeling overwhelmed by the learning content (BMBF, 2003). These findings suggest that the inability to meet the numeracy or literacy expectations of the worksite might be a contributing factor, especially for those apprentices who entered from the *Hauptschule* or without a school leaving certificate.

Employers throughout the developed world complain about what they perceive as a decline in reading, writing, and numeracy skills among the young, and the survey results cited above suggest Germany is no exception. In addition to the views of employers, a BIBB survey of nearly 500 VET experts¹¹ reported that over 80% of those surveyed believe that the reading, writing, and maths skills of young school leavers have declined over the past 15 years. Whether these complaints are justified is an open question, but any strategy that reassures employers that the basic skills levels of prospective apprentices will be screened in advance will undoubtedly be met with approval. A major initiative to address basic skills deficiencies of young people in that system should help significantly in persuading employers to take a chance on students who might otherwise be turned away.

Solid academic skills will enhance a young person's prospects for mobility and long-term labour market success

One of the great strengths of the dual system is that it equips young people from an early age with the kind of “soft skills” that are best acquired at the workplace and are essential for success in today’s economy. Learning how to work in diverse teams, how to resolve conflicts with supervisors or fellow workers, how to take initiative, how to solve problems with more than one step - these skills are hard to develop in the classroom alone and require a well-structured and supported learning environment on the jobsite. 20% of young German workers make an early transition into a field or sector different from the one for which they were trained. This suggests that the dual system can help apprentices develop transferable skills as well as occupationally specific skills (although it could also be interpreted as mistaken initial choice).

But there are other skills that are essential for survival in a rapidly changing economy, ones that must be developed in classrooms as well as workplaces. Levy and Murnane (2005) analyse the degree to which increasingly sophisticated machines are performing operations that we thought would always be the province of skilled workers and then argue that the two sets of skills that machines can never replace are what they term “expert thinking” (solving problems for which there are no rules-based solutions) and “complex communications” (interacting with people to acquire information, understand

11. www.bibb.de/de21840.htm.

what that information means, and persuade others of its implications for action). A challenge for the German VET system, and for upper secondary education systems everywhere, is to ask: how well are we equipping our young people to be “expert thinkers” and “complex communicators”, survival skills for the 21st century?

Academic skills are likely to depreciate more slowly over a working life than vocational skills

As the OECD 2010 Germany Economic Review observes, there is evidence to support the proposition that, although the labour market outcomes of upper secondary vocational graduates are quite similar to those of tertiary graduates when both are starting out, the gap widens sharply as workers approach retirement (OECD, 2010). The review authors cite a study by Ludwig and Pfeiffer (2005) showing on the basis of worker self-assessment that the depreciation rate of human capital for VET graduates is much faster than for university graduates. In fact, the depreciation rate for VET graduates appears to increase over time, no great surprise in a period of rapid organisational and technological change. As Gervais and colleagues (2007) argue, skill-specific human capital may be more valuable in relatively stable environments while general human capital serves best in periods of uncertainty and change. This underlines the importance of further learning throughout life.

Strong academic skills will facilitate the path to tertiary education and lifelong learning

In recent years Germany has enhanced pathways for young people that enable them to pursue both vocational and tertiary qualifications. As the artificial barriers that have separated these two sectors begin to fall, it will be increasingly important to assure that young people who start out in the VET system have the foundation of academic skills and knowledge to take advantage of opportunities to pursue tertiary education if they so choose. This argues for the importance of building into the curriculum of the part-time vocational schools a sufficiently strong general education component to ensure that graduates of the dual system are not at a significant disadvantage if and when they decide to undertake tertiary studies. Whether or not they choose to enrol in a tertiary programme, it is clear that virtually all VET graduates will have to continue to learn on the job in order to acquire new skills and upgrade existing ones. A recent EU Lifelong Learning Survey, which was carried out as an *ad hoc* module to the EU Labour Force Survey, places German workers in the lower middle range of EU countries in participation in formal and informal continuing learning activities. As in most countries, it is the more qualified workers who are the most active participants, raising a concern about depreciation of skills in a rapidly changing labour market.

Implementation

Develop ways of assessing basic skills needs in students and measures to tackle them

International evidence suggests that relying on self-declaration of basic skills deficiencies is insufficient as many people with weak basic skills do not recognise that they have difficulties, especially in respect of numeracy (see for example Bynner and

Parsons, 2006; Finnie and Meng, 2005). Also, those who do know that they have basic skill problems may be reluctant to admit it (Basic Skills Agency, 1997). Therefore, systematic assessment of basic skills is necessary.

The first step in addressing the basic skills issue is to engage employers and other stakeholders in determining what are the foundational literacy and numeracy skills students need in order to be able to function successfully in the VET system. Assessments already in use by employers as well as basic skills assessment systems set up in some of the *Länder* should be reviewed and can serve as models. If no relevant validation studies exist, the German government should commission one to assess the relationship between the basic skills levels of entering students and their subsequent performance in the VET system. Once this is done, an assessment tool should be identified (alternatively, an existing assessment tool like PISA or the national education tests issued for the first time in 2010 could be adapted or the education standards used for that purpose) to be administered as part of the *Hauptschule* school-leaving exam, and to those entering the transition system without a school-leaving certificate. Such firm evidence about basic skills gaps will help to identify the right support measures.

In addition, the government together with the *Länder* should review existing programmes in Germany and elsewhere designed to address the particular challenges of serving adolescents with weak literacy and numeracy skills, and develop or adapt model programmes tailored to the needs of students entering the VET system. The *Länder* should also design and implement a programme to train teachers in part-time VET schools to teach such programmes, and incorporate an adolescent literacy programme or module as a key component in the transition system.

Reconsider the time allotment for general education in part-time VET schools

To address the challenge of providing more advanced academic skill development for students in the dual system, Germany might consider increasing the 160 hour time allotment for general education in the part-time vocational schools, and provide stronger encouragement and support for VET students to develop sufficient academic interests and strengths so that more of them will decide to pursue some form of tertiary education as part of their long-term career development.

2.4 Assessment in dual VET and cooperation between learning places

The challenge

The final assessment of apprentices includes three components

The final assessment of apprentices in the dual system has three components: first, students receive a certificate from the part-time VET school based on an evaluation by the teachers of the students' continuous performance throughout the time of their apprenticeship; second, the training employer also provides a written evaluation of their performance during their apprenticeship; and third they have to sit the final Chamber exam which tests their occupation-specific skills and knowledge. The final Chamber exam is the most important component; passing this exam allows the students to obtain their formal VET qualification.

The assessment at the end of dual VET programmes is very much driven by the social partners

The legal framework for VET requires teachers to contribute to the final Chamber examination which combines practical tasks and paper and pencil exams. The exams are developed at national level with equal representation from teachers, employers and the trade unions in the examination board. The final Chamber exam tests only the occupation-specific competences of students; broader more academic knowledge imparted in the part-time schools is not directly part of the assessment. The school side of this process may become marginalised since it is possible to fail the school exam and still get the national Chamber diploma.

Inclusion of the school mark as a component of the final diploma is currently voluntary. While some employers apparently require both the results of the Chamber examination and the school mark in an application for an entry level job, others only ask for the Chamber results. This may lead students to devalue the importance of the school mark and consequently to take the part-time schooling portion of the dual programme less seriously.

There is no separate assessment of numeracy and literacy skills. Given that teaching of these skills is embedded in the teaching of technical skills and practical training, this entails a risk that sometimes numeracy and literacy skills may be neglected (see also section 2.3).

Coordination between VET schools and workplace training is inadequate

During the visit of the OECD team, stakeholders - in particular the trade unions but also the VET researchers – commented on the need for better coordination between part-time VET schools and training employers more generally. Concerns were also raised about the quality of workplace training, especially in smaller and less well-resourced training firms.

A major 2008 BIBB study of quality in VET (*Qualitätssicherung in der betrieblichen Berufsausbildung*) reveals that while about a quarter of the apprentices reported themselves as satisfied with the quality of their training half were only ‘relatively satisfied’. Over half of company respondents (56%) reported that cooperation between learning places is relatively weak or not-existent (Beicht *et al.*, 2009).

A self-evaluation of training firms (Ebbinghaus, 2009) suggests that while collaboration with VET schools is seen as highly important by training employers, they report that actual cooperation hardly takes place at all and is often limited to information exchange (Ebbinghaus, 2009, pp. 42-43). Other studies (Euler, 2005; BLK, 2004) come to similar conclusions regarding the lack of cooperation between dual system partners, in particular in SMEs (BMBF, 2009a).

Assessment arrangements bear on the level of cooperation. In Baden Württemberg for example, where schools and Chambers get together locally to develop one joint final exam, the OECD team heard positive feedback regarding the impact of this collaborative process of exam preparation on the co-operation between learning places more generally and on the quality of VET provision.

Recommendation

Make inclusion of the school mark in the final certificate mandatory and include an explicit assessment of literacy and numeracy skills in the final school exam. In the longer run, merge the Chamber and the school exam into a single final assessment. Strengthen collaboration between schools and employers through an integrated assessment process.

Supporting arguments

There are three arguments to support the recommendation: first, including the school mark will have a positive signalling effect on students and teachers regarding the value of part-time schools and the skills obtained there; second, integrating school and Chamber exams will improve cost-effectiveness, avoid duplication of efforts and ensure common standards; third, merging the school and Chamber exams would foster broader cooperation between the school and the workplace.

Mandatory inclusion of the school mark has a strong signalling effect

Inclusion of the school mark in the final certificate would have a signalling effect, increasing student motivation to learn since they would see that their school results would be placed before a recruiting employer. School teachers would also feel better valued if the results of their work, reflected in student outcomes, receive more official recognition. This approach is already practiced in some cases so including the school mark should not impose a major administrative burden.

Explicit assessment of literacy and numeracy skills should be part of the evaluation on the school side both to ensure that students leave VET programmes with key basic skills and to take advantage of the same signalling effect, motivating students and teachers to take the continuing development of basic literacy and numeracy skills seriously.

Merging exams improves cost-effectiveness, avoids duplication of efforts and ensures common standards

There are practical advantages in carrying out one joint final exam instead of two separate ones since it avoids duplication of effort and decreases the organisational load. At present, the Chamber examines occupation-related skills acquired both in schools and in the workplace, so there is some overlap between the school and the final Chamber exam. Merging these two exams would prevent students from having to sit two exams with partly overlapping content.

Some research evidence suggests that while some local responsibility over curricula content is desirable to encourage the use of local knowledge and resources, this should be balanced by accountability and external assessment at national level to ensure that standards are the same and results comparable. Based on international evidence on student performance from TIMSS, Wößmann (2003) argues that central national exams are a precondition for decentralised education systems to achieve strong student performance because they provide comparable information on student performance and hold local actors accountable for performance.

Integrating the school and Chamber exams can foster cooperation of learning places

The principle of duality implies that learning takes place in two complementary settings (plus in some cases additional settings such as the *überbetriebliche Kurse*). But as discussed, co-ordination between the two settings is not as strong as it should be. While this may require action on a number of fronts, the current separation of assessment regimes does not help. A single final exam should help to foster an improved level of co-operation between the school and the workplace.

Some stakeholders argue that it would be difficult to make the inclusion of the school mark mandatory because unlike the largely national Chamber exam, school exams are developed and carried out at *Länder* level and vary accordingly. However, since the great merit of the dual system is integration of learning in school and at the workplace, substantial variation at *Länder* level in the school exams is bound to be problematic. Not only does this undermine the principle of dualism, it also undercuts the idea of a national qualifications system in which results are comparable across states.

In at least one other dual system country with equally strong social partner involvement in the design and delivery of VET, the specific and general parts of the final exam are much better integrated and the school and employer sides work more closely together in delivering a common final examination (see Box 2.8).

Box 2.8 Final VET exams in Switzerland

In Switzerland, apprentices have to pass a final exam to obtain a VET qualification (*Eidgenössisches Berufsattest* in the end of a 2-year apprenticeship or *Eidgenössisches Fähigkeitszeugnis* in the end of 3-4-year apprenticeships). The final exam is national and takes place at the same point in time for all students. Some regional variation (between the German, French and Italian speaking parts of the country) is however possible.

The assessment has several elements. The exam is organised by a national examination board which is composed of representatives from VET schools, social partners and cantonal VET offices under the control of the Cantons. The exam can take place either in the part-time VET school, the workplace or a workshop (*Ausbildungszentren für überbetriebliche Kurse*). It is composed of a written and an oral part; both are supervised and carried out by experts designated by the Cantons.

The apprentices have to carry out a piece of practical work (either a simulation of everyday work life situation or the end of study project, *Gesellenstück*) and answer questions on occupation-specific knowledge and general knowledge (in the field of language and society, including economics, legal knowledge or ecology). The exam tasks on occupation-specific knowledge are developed by the social partners while those on general knowledge are prepared and examined by the VET schools. The final mark is typically composed as follows: the practical work counts 40%, the occupation-specific tasks 20%, general knowledge 20% and the average of all the marks in the part-time VET school counts another 20%. All results are taken together at the examination board which also publishes the final results.

Implementation

The inclusion of the VET school mark should be made mandatory

First an agreement should be reached at *Länder* level together with the social partners to include the VET school mark in the final diploma on a voluntary basis. In the longer

run, a change of the federal VET legislation (BBiG) should be introduced to make the inclusion of the VET school mark mandatory.

Integrate the final assessment to enhance learning place cooperation and quality control

Merging the VET school test and the Chamber exam would provide a framework to make cooperation between the school and the workplace more systematic, underlining the reality that both learning places share the responsibility for preparing students for a joint goal.

Upgrading the role of schools and teachers and fostering cooperation between VET schools and training employers should introduce a strong element of quality assurance into the training process without creating an additional administrative burden for employers.

2.5 Links to tertiary education

The challenge

Pathways leading from upper secondary VET to tertiary education are available in principle

There are many access routes from upper secondary VET to tertiary education in universities and *Fachhochschulen*, including routes for those without the *Abitur* (KMK, 2009; BA, 2008; BA, 2009). Access to tertiary education has just been extended: since 2009 those with the Master craftsman (*Meister*), technician or *Fachwirt* titles have been granted full access to university and graduates from upper secondary VET programmes with 3 years of work experience have access to tertiary education in relevant subjects. It is too early to evaluate the impact of these reforms (so-called ‘third education pathway’, *dritter Bildungsweg*) on student behaviour in terms of enrolment in higher education, but some of those interviewed by the OECD visit team had doubts that the reform would have a large impact.

There are various ways to acquire a higher education entrance qualification outside the classical *Gymnasien*, with arrangements varying across the *Länder*. They include second chance offers in evening or full-time schools (e.g. VET students can acquire the university entrance qualification in two years at the *Berufsoberschule* or the *Berufsgymnasium* or the qualification for entrance into the university of applied science through a one-year course at the *Fachoberschule*). Some *Länder* also offer ‘double’ programmes allowing students to enrol in an apprenticeship and acquire a university entrance qualification through a parallel programme of study.

In practice few VET graduates make use of these pathways

Despite a strong VET system with some of the high level apprenticeship professions clearly corresponding to higher ISCED levels than their nominal categorisation, academic tertiary attainment rates are low by international standards. In 2009, only 23% of a typical age cohort completed a tertiary education programme compared to an OECD average of 39% (OECD, 2009). While Germany’s tertiary graduation rates increased by 3 percentage

points between 2000 and 2006, this was less than the OECD average increase (approximately 5 percentage points).¹²

Up until the introduction of recent reforms, the permeability of the system actually diminished over time. The percentage of first year university undergraduates with a VET qualification decreased from 35% in 1990 to 28% in 2003 (Cortina *et al.*, 2008). According to the Higher Education Information System (*Hochschul-Informationssystem, HIS*), in 2006 about 25% of first year university undergraduates had a VET qualification (12% at university, 50% at *Fachhochschule*). In 2008, only 0.6% of those students who started an apprenticeship without university entrance qualifications made their way to university and 1.8% to *Fachhochschulen* (Autorengruppe Bildungsberichterstattung, 2010).

While data are difficult to compare internationally, Germany has relatively small numbers of students going to tertiary studies through pathways other than the classical *Gymnasia* (see also study on transitions in Annex B). A study comparing university student profiles in European countries (HIS, 2008) demonstrates that Germany has particularly low shares of students entering university by non-traditional routes defined as “access to higher education through the validation of prior learning and work experience – with or without a higher education entrance examination” (Orr, 2008, p. 41). Similarly, comparatively few university students gained access to higher education solely based on their VET qualification or validation of work experience but without prior university entrance qualification (see Table 2.3).

Table 2.3 Non-traditional access to tertiary education

	in %									
	Australia	Austria	Czech Republic	France	Germany	Norway	Sweden	Switzerland	United Kingdom	United Kingdom
Share of all higher education students coming from non-traditional routes (in %, in 2008) ¹	NA	6	0	0	1	8	6	9	15	15
Higher education entrance based on VET (in % of total students) ²	12	40.5	51	13	1.4	9	NA	NA	NA	NA

1) Based on general definition of non-traditional as “access to higher education through the validation of prior learning and work experience – with or without a higher education entrance examination” (Orr, 2008, p. 41).

2) Based on Orr, 2008, Data Annex, Subtopics 7 and 8. For non-EU countries: national statistics.

Source: Various sources, HIS, 2008; Orr, 2008; see also Annex B.

12. Some argue that the low tertiary completion rates are mainly due to structural features of the German VET system and labour market which are not taken into account in the OECD data (Müller, 2009). For instance education programmes that fall under level 5B in the ISCED classification where Germany has an above average graduation rate are not taken into account. Moreover, the category 5B might be underreported as individuals who have attained advanced VET qualifications such as the master craftsman (*Meister*) without being enrolled in the formal school system are not counted. However valid these arguments, there are other reasons why it might still be desirable to increase the share of university graduates, as argued below.

There are barriers preventing people from moving on to tertiary education

A high quality apprenticeship system, such as in Germany, including some demanding technical professions should yield a proportion of qualified apprentices fully capable of benefiting from tertiary education, even if they lack the *Abitur*. So the relatively small numbers following this route suggests some artificial barriers in the path. One problem is that pathways leading from VET to tertiary education are not transparent. The variety of institutions and programmes are confusing for students and parents and heterogeneity across *Länder* makes the situation even more complicated. The recent reform to open up access to tertiary education might not yet be generally known. In particular students outside the *Gymnasium* might not be sufficiently aware of study options at tertiary education institutions. It should be the task of career guidance to bridge system parts, increase awareness and make sure young people find their way through the multitude of pathways (see also section 2.2).

Dual VET students with only 9-10 years of general schooling might lack some of the academic skills (including the ability to engage in self-directed learning and abstract reasoning) necessary to study at university (this might be less true for the more application oriented *Fachhochschulen*). A day or so a week of part-time school – most of it focused on occupation-specific skills – is not a strong preparation for academic learning. Little support is available to help people with a less academic background especially at the beginning of their university studies (see also section 2.3).

Three or four-year full-time academic tertiary study programmes (potentially requiring payment of fees) might not be very attractive for people who are already integrated into working life and accustomed to being independent and earning their own money. This is especially true if the university programmes are seen as very rigid and theory-based.

Recommendation

Open access to tertiary education further and address transition barriers perceived by students. Design adequate guidance, induction and financial support measures for less academically trained people wanting to attend university. Promote dual universities and dual programmes at regular universities and encourage more flexible, part-time university offers and the recognition of prior learning and experience.

Supporting arguments

There are three arguments to support this recommendation: first, there is evidence that the labour market will require a substantial increase in the supply of vocational postsecondary graduates; second, offering more students the opportunity to enrol in tertiary programmes is desirable on equity grounds; third, widening access is feasible, given a number of promising options to improving access to tertiary education.

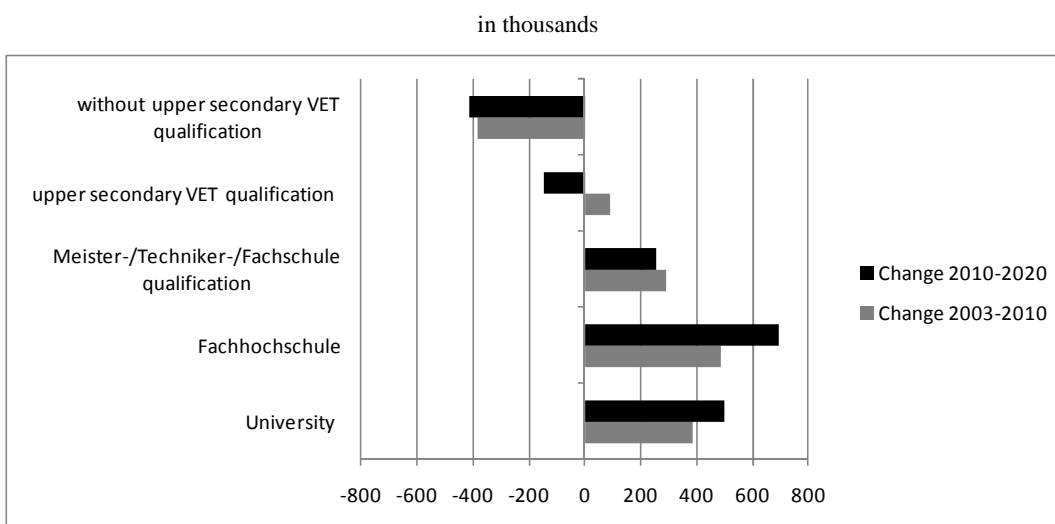
More highly qualified workers will be needed in the future

A recent forecast for EU countries suggests that most new jobs will be created in the knowledge- and skills-intensive occupations such as high-level managerial and technical jobs (Cedefop, 2010). While demand for basic occupations is expected to increase slightly, the biggest job losses are forecast for skilled manual workers; in the non-manual

worker section, a restructuring is expected with more jobs in the service sector (sales, security, catering, caring) and fewer in lower level white collar professions like clerks.

Forecasts for Germany are similar.¹³ A study on future trends in labour market demand suggests that by 2020 the German economy will have shifted away from traditional jobs in the manufacturing industry, mining and agriculture and towards service-oriented professions (Bonin *et al.*, 2007, see also Figure 2.2). Accordingly, the demand for more highly qualified workers (university and *Fachhochschule* graduates but also *Meister* and equivalent titles classified as ISCED 5B) is predicted to increase further, while demand for people with no qualifications and vocational qualifications only will fall. In the Western parts of Germany this trend will be stronger than in the East. In the East qualification patterns are adapting to Western standards, implying increased demand for apprentice trades and a less pronounced demand for those qualified at tertiary level (BMBF, 2009d).

Figure 2.2 Forecast change in demand of labour force by education level 2003-2020



Source: Autorengruppe Bildungsberichterstattung (2008), *Bildung in Deutschland 2008, Ein indikatorengestützter Bericht mit einer Analyse zu Übergängen im Anschluss an den Sekundarbereich I*, Bertelsmann, Bielefeld.

Such forecasts need to be used cautiously since labour market trends are influenced by many hard-to-predict external factors - but having more people enrol in some forms of high level professional training is already a necessity. The latest OECD Economic Survey (OECD, 2010) following the 2008 IAB Job Vacancy Survey points to the lack of highly qualified personnel in some sectors (including metals/metal products and machinery/electrical/optical/transport equipment). Specialists in the areas of mathematics,

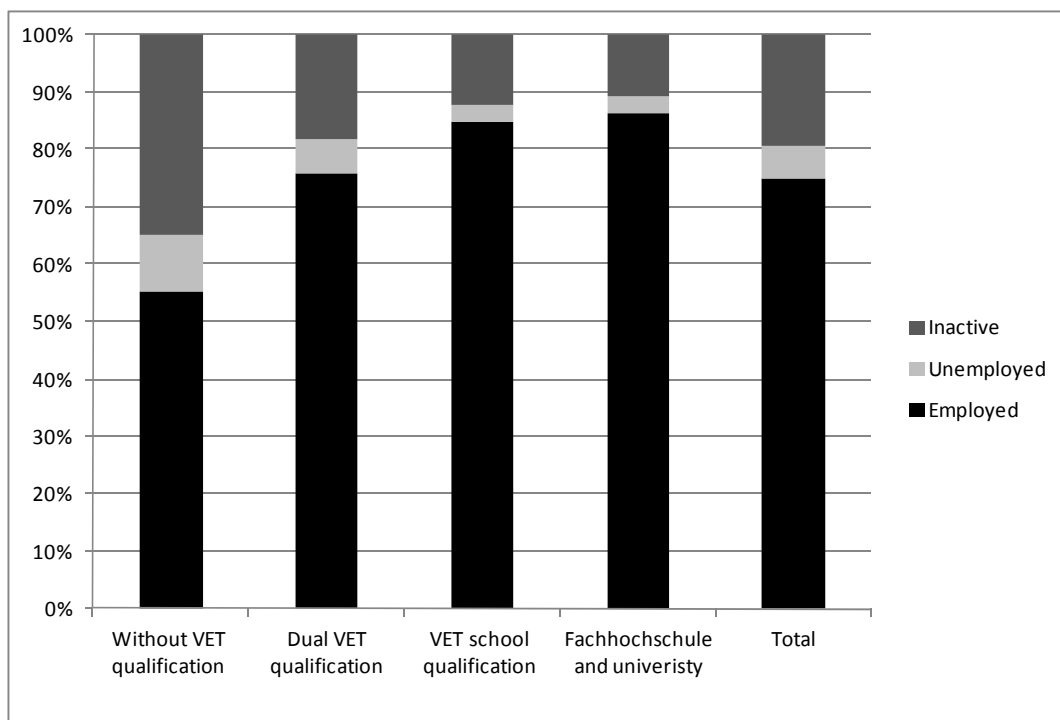
13. Germany has a number of approaches to monitor and analyse and forecast future skills needs, such as the labour market monitoring system (*Arbeitsmarktradar*) supported by the BMBF and the research network for early identification of skills needs (www.frequenz.net). The BIBB also uses several techniques to monitor skills needs, including employer surveys, job advertisement analyses, surveys of guidance staff and continuing education providers to assess the needs.

informatics, natural science and technology, and with advanced VET qualifications (at the technician and master craftsman levels) are in particularly high demand (BMBF, 2009d).

Demographic changes will put additional pressure on the economy because the older age cohorts leaving the labour force in coming years are relatively well educated, there will be a lack of skilled labour and an oversupply of less skilled labour in the future (OECD, 2010, fn. 24). From the perspective of the individual, reaching higher levels of qualifications is also desirable because labour market participation increases with the level of education (see Figure 2.3). Individual returns to education are also highest for tertiary education (see Figure 2.4). Despite an increase in the number of people with higher qualifications returns to these qualifications have not fallen over time (Autorengruppe Bildungsberichterstattung, 2008, p. 208).

Figure 2.3 Share of employed, unemployed and inactive in 2008

25-65 years, in %



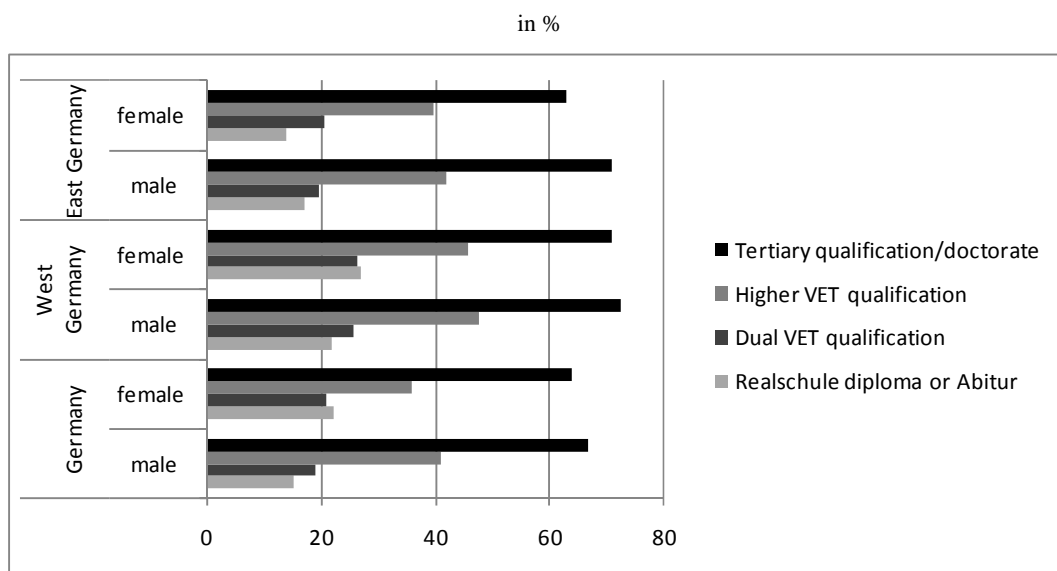
Source: Autorengruppe Bildungsberichterstattung (2010), *Bildung in Deutschland 2008, Ein indikatorengestützter Bericht mit einer Analyse zu Perspektiven des Bildungssystems im demographischen Wandel*, Bertelsmann, Bielefeld.

At the same time returns to education vary not only by level of education but also substantially within levels of education depending on the occupation (for a disaggregated analysis of returns to higher education by different subjects see Wahrenburg and Weldi, 2007, also Figure B.3 in Annex B).

This implies that it is of little use to call for an undifferentiated increase in numbers of tertiary graduates. A disaggregated analysis drawing various strands of research together and comparing returns and prospects of different levels and fields of education as has been carried out for Austria (Lassnigg and Vogtenhuber, 2007) would be necessary to

shed more light on where best to invest in the education system. This is not to suggest that the government should engage in central human capital planning since the market (through the voice of the social partners in VET design and provision) needs to contribute to the creation of the right skills mix. But the government should promote conditions allowing market mechanisms to function.

Figure 2.4 Returns to education by education level, sex and region in 2006



Source: Autorengruppe Bildungsberichterstattung (2008), *Bildung in Deutschland 2008, Ein indikatorengestützter Bericht mit einer Analyse zu Übergängen im Anschluss an den Sekundarbereich I*, Bertelsmann, Bielefeld.

Giving everyone the chance to go on to tertiary studies is a means to enhance social mobility

In Germany, education performance and attainment is strongly linked to parents' socio-economic background and their educational attainment (Autorengruppe Bildungsberichterstattung, 2008, p. 211). Due to the comparatively early selection of students into school types, young people are locked into pathways from which it is not easy to escape. Giving individuals a chance later on to change their career and to catch up with their more academically trained peers and even actively support such career changes is a way of creating a more equitable counter weight to such early selection.

There are several concrete options to improve access to tertiary education

There are a number of promising options to open up avenues to tertiary education which could be developed. They include the promotion of double qualifications permitting access to tertiary education, the development of alternative forms of tertiary VET qualification, and strengthening access routes for students without the *Abitur*. They are discussed in the implementation section below.

Implementation

Promote double qualifications to strengthen students academic knowledge without lengthy study times

One way of equipping VET students with the skills to succeed in tertiary studies is through double qualifications (*i.e.* a VET diploma plus a higher education entrance qualification) to foster core academic skills alongside solid technical skills without prolonging study times excessively. While the professional baccalaureate is available in all *Länder*, offers are more often consecutive than parallel, meaning a significant additional investment in time (and opportunity costs) for students. As an alternative, parallel offers should be promoted in all *Länder*. It is, however, important to provide students who are willing to take on the extra teaching hours with the right support to make sure that this additional study burden is not perceived as a barrier to access in tertiary education.

In Austria, since 2008 students have been able to pursue such parallel studies (called *Lehre mit Matura*). In the academic year 2007/2008, 2 609 students received the professional baccalaureate certificate, about 2.7% of the comparable age cohort (Klimmer and Schlögl, 2009). 45% of these graduates start a university programme, 23% go to a *Fachhochschule*, about 10% a university college of education and 20% a VET college (Klimmer, Schlögl and Neubauer, 2009). The same possibility exists in Switzerland.

Find out more about where students see barriers to transition

Too little is known about whether or not VET students aspire to tertiary education and what obstacles they see in their way. There are no data available on VET students assessing their aspirations and perceptions of barriers with respect to further studies and transition to tertiary education (Baethge, Solga and Wieck, 2007, p. 63). In particular it is very uncertain whether students are aware of the access routes arising from recent reforms. A survey of VET students should be considered to learn more about what students need in order make a successful transition, what kind of support would be helpful, and how much students know about the availability of pathways and subsequent career prospects.

Foster other forms of further education and high level VET

Compared to some other OECD countries relatively few VET graduates acquire further VET diplomas (ISCED level 5B): only 13% attain higher VET qualifications such as the master craftsman title in Germany as opposed to 22% in Denmark (Ebner, 2009). More generally, the participation of VET graduates in further education has decreased over the past years from 24% to 18% and for people without a VET qualification from 11% to 7% (Baethge, Solga and Wieck, 2007; see also OECD, 2010).

The federal and *Länder* governments support candidates for advanced VET qualifications financially (*Meister BAföG*) during their training (BMBF, 2009e). Financial support for pursuing qualifications as a master craftsman or equivalent was given to 133,592 persons in 2007. In addition, there are possibilities to obtain specific additional qualifications (*Zusatzqualifikationen*) including foreign languages, particular engineering or IT classes (BiBB, 2008). But given evidence of declining enrolments into higher level

VET support for high level VET qualifications may need to be pursued more energetically.

Open access to university for students without the Abitur

Despite recent reforms, work experience remains an entrance requirement to tertiary education for people with an upper secondary VET qualification. But work experience, however valuable, may not foster those skills in VET graduates that are necessary to succeed in academic studies. For those with three years of work experience, the world of learning may seem to be more remote, and the opportunity costs of education in terms of wages foregone will be significant. The abolition of the work experience requirement should therefore be considered.

Many stakeholders seem to be in favour of improving permeability. Both the Chambers and the Association of Universities and other Higher Education Institutions in Germany have called for an increase in the permeability between VET and tertiary education (HRK and DIHK, *sine datum*). The employer associations strongly support opening university access for people without a university entrance qualification and suggest several concrete ways of implementing this reform (BDA, 2009)

Provide orientation, preparatory and financial support for students with a non-academic background

Students need adequate academic preparation to succeed in tertiary education, in particular in the more academic programmes. Drop-out from university studies is more common among students who entered university through a second chance programme outside the regular pathway (see Table 2.4). Similar results can be observed for students at the *Fachhochschule*.

The difficulty of coping with the requirements of university learning is a significant factor in drop out alongside family problems and financial difficulties. 44% of university dropouts say they felt ill-prepared by their schools prior to entering tertiary studies. Students in engineering and the sciences in particular report a lack of sufficient knowledge in mathematics and science. Bridging courses and induction programmes are increasingly offered by universities but not used enough by students facing real difficulties (Heublein, *et al.*, 2009, p. 77). More effort therefore needs to be invested in supporting students with weaker academic backgrounds. In particular induction for beginner students and preparatory courses are needed to facilitate the transition for professionally trained candidates.

Table 2.4 University graduates and drop-outs by prior education

in %

	Gymnasium	Comprehensive School	Evening School	Professional Gymnasium	Kolleg	Fachoberschule	Other
Graduates	82	5	1	4	1	4	3
Drop-outs	62	6	3	10	5	10	4

Source: Heublein, U. *et al.* (2009), *Ursachen des Studienabbruchs in Bachelor- und in herkömmlichen Studiengängen Ergebnisse einer bundesweiten Befragung von Exmatrikulierten des Studienjahres 2007/08*, HIS Hochschul-Informationssystem, www.his.de/pdf/21/pdf/21/studienabbruch_ursachen.pdf.

Better guidance on tertiary study options would also be very useful. The HIS recommends a handbook on study choices for professional qualifications for use in career guidance programmes, as well as the development of university websites tailored to the needs of different would-be applicants (Freitag, 2009). This should be underpinned by solid information given in regular career guidance programmes to VET students based on the notion that vocational and academic tertiary studies can be seen as a continuum rather than two separate worlds between which a young person has to choose (see also section 2.2).

Financial aid is also very important (time pressures because of family obligations or work and financial difficulties are the most frequently cited reasons for problems of students with VET background; Nickel and Leusing, 2009; Famulla, 2003). The BMBF provides some scholarship support, but only to very good candidates without the *Abitur* who want to pursue university studies (BMBF, 2009c, p. 37). Study grants for students with modest resources (*BAföG*) are available to all but not compatible with part-time studies because they are not paid to individuals who earn more than EUR 4 800 in gross wages per year. Recently the BMBF introduced further education stipends (*Weiterbildungsstipendium*) and advancement stipends (*Aufstiegsstipendium*) for those who do not have the *Abitur* to go on to tertiary education. Consideration should be given to the extension of these programmes, particularly where evaluation suggests that they increase access and participation.

Improve recognition of prior learning to shorten study times

Students with work experience are rarely keen to enrol in lengthy studies without earning money. One way of making university studies more attractive is to shorten study times by recognising the existing skills of VET graduates. Freitag (2009) suggests that recognition of prior learning be integrated into the framework regulations of all study programmes. Methods should be developed to systematically assess the skills of the professionally qualified and recognise them in their study programmes.

Germany has started to develop a recognition of prior learning programme (see Buhr *et al.*, 2008). The BMBF has created ANKOM (*Anrechnung beruflicher Kompetenzen auf Hochschulstudiengänge*), which aims to identify models of recognition of competencies gained in VET for accredited bachelor studies in certain domains such as IT, engineering, economics and business administration (BMBF, 2009c, p. 39). Other measures on national and state level have been piloted such as DECVET (*Leistungspunktesystem für die berufliche Bildung*) or INNOPUNKT (*Mehr Durchlässigkeit in der Berufsbildung – Brandenburg in Europa*) in the state of Brandenburg, a competition of ideas on the barriers for entry into higher education and ways of overcoming them.

Make university studies more flexible

Universities would themselves benefit from providing more flexibility in the provision of their programmes as well as in ways of recognising prior learning. People want to find ways to combine work and study and, there is growing demand for evening courses, leading to university qualifications that can be obtained while pursuing paid work and that enhance professional experience. Currently, only 3.1% of all undergraduate, 10% of graduate and 8% of all Master study programmes are offered as part-time or distance courses (Freitag, 2009). Offers vary substantially across subjects: while only 1% of science and technical studies are offered in a flexible way, 40% of

Master studies in social pedagogy and social work are offered via distance or part-time. Some schools for business and administration (*Wirtschafts- und Verwaltungsakademien*) offer studies for people already working.¹⁴ The HIS is carrying out a study on the topic („*Erhebung und Typisierung berufs- und ausbildungsbegleitender Studienangebote*“).¹⁵ Results are expected in the course of 2010.

Other countries are already offering such shorter, more tailor-made university programmes with success (see Box 2.9).

Box 2.9 Examples of flexible study programmes

In the **United States** short certificate programmes are well-established in many universities. For example the University of Washington within its programme of professional and continuing education offers certificate courses. These are mainly taught in evenings and may be completed in six to nine months by those who wish to gain additional qualifications or envisage a change in careers. Stanford University in its Center for Professional Development offers graduate certificate and professional certificate courses, in which students can choose to study three to five graduate courses (designed like regular curriculum courses; credits may be transferred to regular master's programme) or three to six professional short courses (more applied, delivered by faculty and industry experts) which lead to the respective certificate to demonstrate knowledge in and understanding of specific areas. Many other universities offer similar courses, like Penn State, NYU, and University of Massachusetts which also offers an extensive range of online degrees.

In **Canada** certificate programmes are available in certain professions and only take up to two years. For example the University of Toronto, School of Continuing Studies, offers several certificate courses, like Certificate in Business Analysis, a programme comprising three courses relevant to business analysis which have to be completed within a time frame of two years.

In the **United Kingdom** most universities offer their courses also part-time and through other forms of flexible campus structures, distance and e-learning (*e.g.* Interactive University, University of London External Programme, The Open University). About 40% of higher education students in the UK currently study on an accredited part-time basis. There are also increasing numbers of students engaged in short, non-accredited courses (King, 2008). People studying part-time include students studying for undergraduate first degree, foundation degree, postgraduate taught, postgraduate research, professional development courses at a variety of levels and of varying lengths undergraduate, postgraduate and post experience, short course, non-credit bearing courses, programmes undertaken in the workplace, at an FE/HE centre and online. Some also combine a number of these elements and modes.

Some of **Austria's** higher education institutions offer part time (*berufsbegleitend*) studies. For example the *Fachhochschule Oberösterreich* provides most management and social work studies on bachelor and master's level as well as selected courses in the fields of IT and communication and technology in part-time format on its various campuses.

Promote dual tertiary programmes

The current education system is very polarised, with VET and academic forms of learning perceived as two completely different worlds. In reality, many VET qualifications that are classified as upper secondary have requirements as rigorous as those in some forms of tertiary education. There is no reason why the underlying principle of the dual system – the planned integration of work and learning – should not

14. www.vwa.de/start.

15. www.his.de/abt2/ab22/aktuell/abs28.

apply to tertiary education as well as upper secondary; in fact, it already exists in many countries in the preparation of physicians, architects and other professions prepared in tertiary institutions.

In Germany some very promising dual tertiary models are already in place. Professional academies (*Berufsakademien*) and dual university study programmes in regular institutions (*duale Studiengänge*) are currently offered in Baden-Württemberg, Bayern, Berlin, Hamburg, Hessen, Niedersachsen, Saarland, Sachsen, Schleswig-Holstein and Thüringen.¹⁶ Dual programmes are offered in many subjects, primarily in the fields of engineering and technical studies, business IT and care professions. Most programmes end with a bachelor's degree. Unlike the dual university in Baden Württemberg (since 2009 all *Berufsakademien* fall under the umbrella of a dual university which has the same status as a regular university)¹⁷ the professional academies have formally university status but bachelor degrees are not always recognised by regular universities and accepted as a basis for further master's and doctoral studies.

The system typically mirrors the apprenticeship arrangements: students have to first find a place with a training company that cooperates with a university; if they are successful, a place at a university is practically guaranteed. These programmes offer several advantages similar to apprenticeships: they are attractive to students who want to earn money; employers benefit from the students' productive contribution; they facilitate the process of recruitment and career prospects upon graduation from such a programme are very good. Given the increasing needs of the economy for highly qualified specialists and the evidence of positive results from the use of dual structures for all levels of teaching, these dual universities should be promoted and might evolve into a key pillar of the education system for the future.

16. www.studis-online.de/StudInfo/hochschule.php?type=4&bundesland=0.

17. www.die-duale-hochschule-kommt.de/studienangebote/.

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Annex A: Background Information

1 Biographical information

Kathrin Hoeckel is a policy analyst in the OECD Directorate for Education. She is responsible for country reviews of Australia, Austria, Germany, the UK (England and Wales) and Switzerland and for analytical work on costs and benefits in VET. Prior to this activity, Kathrin worked on the issue of school leadership (*Improving School Leadership*, 2008) and a thematic review on adult learning (*Promoting Adult Learning*, 2005) at the OECD. Before joining the OECD, she worked in the field of development cooperation in Morocco and carried out a research project on post-war reconstruction and state-building in Lebanon. Kathrin holds a M.Sc. in history and political science from Munich University and a Master of Public Administration from the London School of Economics and Political Science. Kathrin is of German nationality.

Robert Schwartz is Academic Dean and Professor of Practice at Harvard Graduate School of Education (HGSE). He held a wide variety of leadership positions in education and government before joining the HGSE faculty in 1996. From 1997 to 2002, Schwartz also served as president of Achieve, Inc., an independent, bipartisan, non-profit organisation created by governors and corporate leaders to help states improve their schools. From 1990 to 1996, Schwartz directed the education grantmaking program of The Pew Charitable Trusts, one of the nation's largest private philanthropies. Schwartz has also been a high-school English teacher and principal; an education advisor to the mayor of Boston and the governor of Massachusetts; an assistant director of the National Institute of Education; a special assistant to the president of the University of Massachusetts; and executive director of The Boston Compact, a public-private partnership designed to improve access to higher education and employment for urban high-school graduates. He has degrees from Harvard and Brandeis Universities.

2 Programme of the review visit

Preparatory visit, 16-20 November 2009

Monday 16 November, Bonn

Introductory session with representatives from the Federal Ministry of Education and Research (BMBF) and the Standing Conference of the *Länder* (KMK)

Tuesday 17 November, Berlin

Meeting with the German Chambers of Trade and Industry (DIHK)
Meeting with the Confederation of German Employers' Associations (BDA)
Meeting with the Confederation of German Trade Unions (DGB)
Meeting with the German Confederation of Skilled Crafts (ZDH)
Visit to a Berlin-based JOBSTARTER-CONNECT Project

Wednesday 18 November, Potsdam

Visit to a VET school (*Oberstufenzentrum Johanna Just*), meeting with the school director and teachers as well as representatives of the Brandenburg Chambers and the Brandenburg Ministries of Education Youth and Sports and of Work, Social Affairs and Family
Visit of a Centre of vocational education, meeting with the staff of the VET centre

Thursday 19 November, Stuttgart

Meeting with representatives from the Baden Württemberg Ministry of Education and the state Academy Esslingen
Visit to a industrial vocational school in Göppingen
Visit to a training company (Festo AG)

Friday 20 November, Bonn

Meeting with representatives from the Federal Ministry of Education and Research (BMBF) and the Standing Conference of the *Länder* (KMK) to discuss the issue of the final conference
Final meeting with the BMBF and KMK to discuss the preliminary results from the mission

Policy visit, 1-5 February 2010

Monday 1 February, Berlin

Meeting with Federal Employment Agency
Videoconference with representatives from the Federal Ministry of Economics and Technology (BMWi)
Informal meeting with representatives from the BMBF and KMK

Tuesday 2 February, Berlin

Meeting with the German Chambers of Trade and Industry (DIHK)
Meeting with the Confederation of German Employers' Associations (BDA)
Meeting with the Confederation of German Trade Unions (DGB)
Visit to training company (STRATO AG), meeting with CEO, HRM, teachers, apprentices, and representatives from Senate Department for Education, Science and Research (Berlin)
Visit to VET school (*Oberstufenzentrum Informations- und Medizintechnik (OSZIMT)*)

Wednesday 3 February, Dresden

Meeting with the president of the Saxony Ministry of Culture and Sports
Meeting with director and teacher from VET school

Thursday 4 February, Berlin

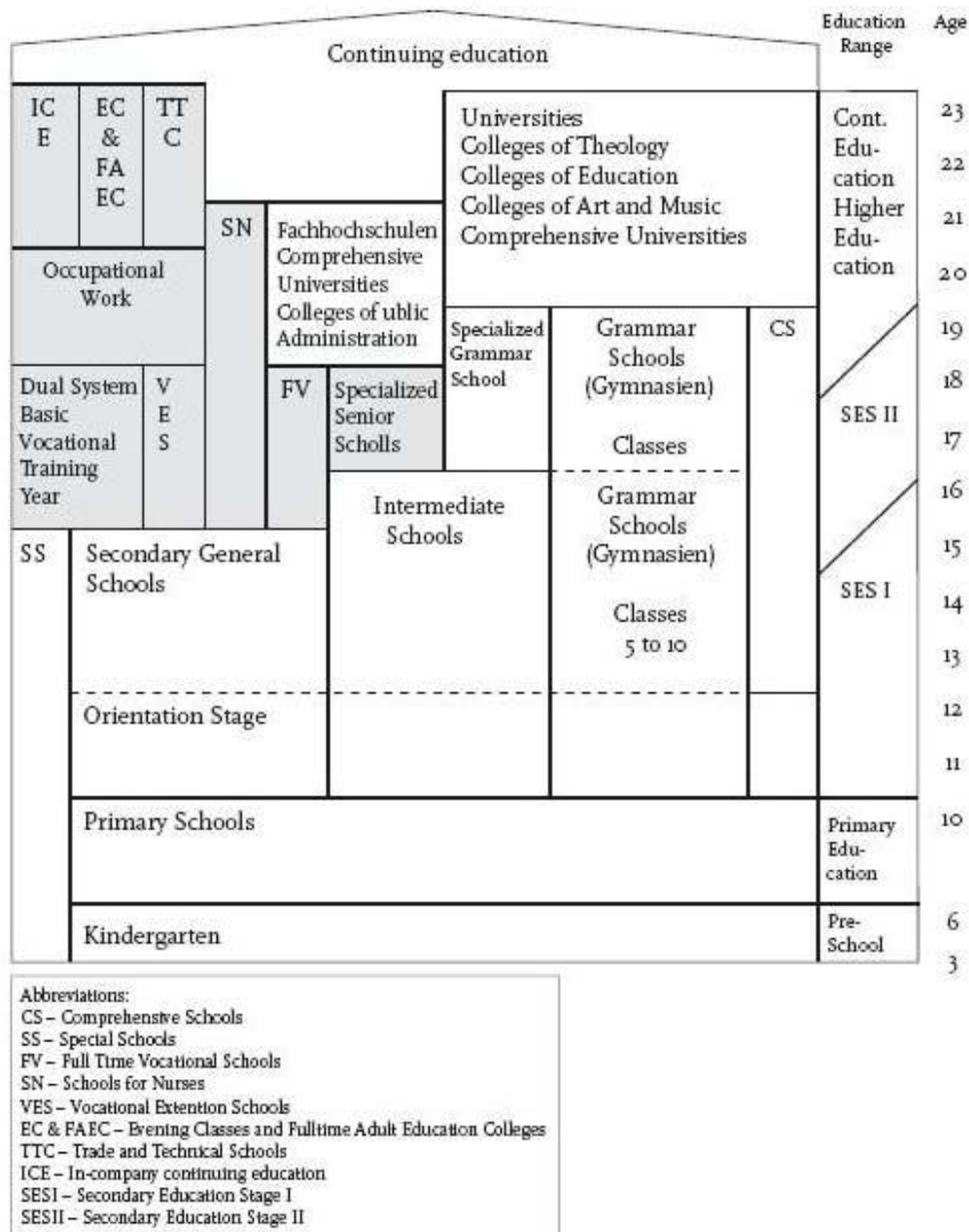
VET researcher seminar

Friday 5 February, Berlin

Final meeting with representatives from the BMBF and the KMK
Meeting with representatives from the BMBF, the KMK and the International Bureau to discuss the planning of the final VET conference in Leipzig

Annex B: International and National Statistics

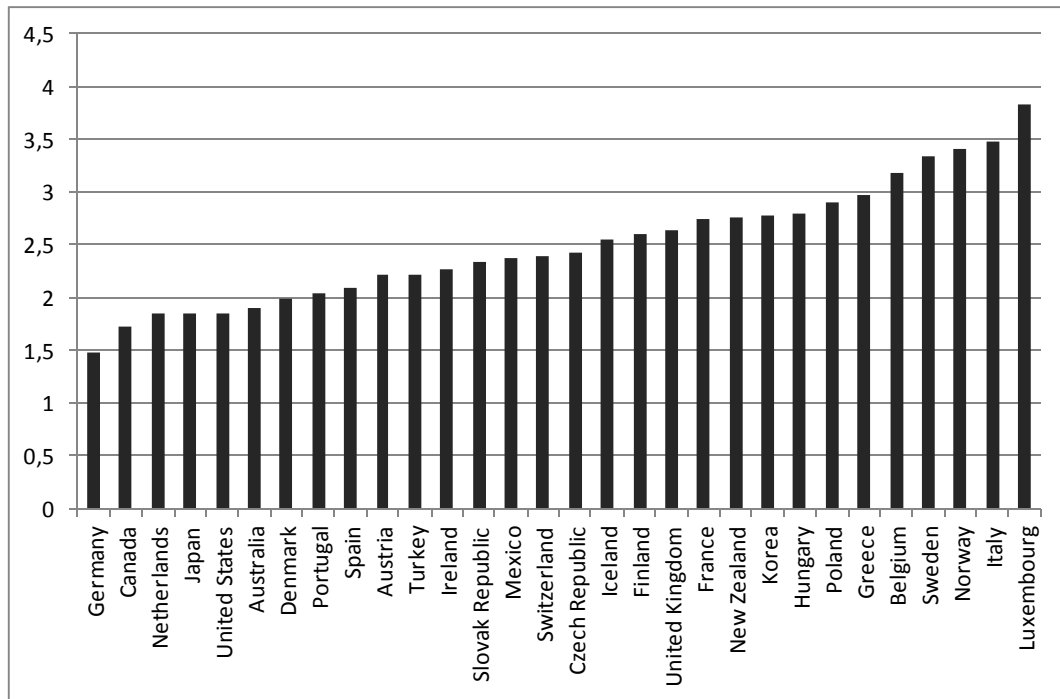
Figure B.1 The German education system



Source: Autorengruppe Bildungsberichterstattung (2008), *Bildung in Deutschland 2008, Ein indikatorengestützter Bericht mit einer Analyse zu Übergängen im Anschluss an den Sekundarbereich I*, Bertelsmann, Bielefeld.

Figure B.2 Relative unemployment of young adults

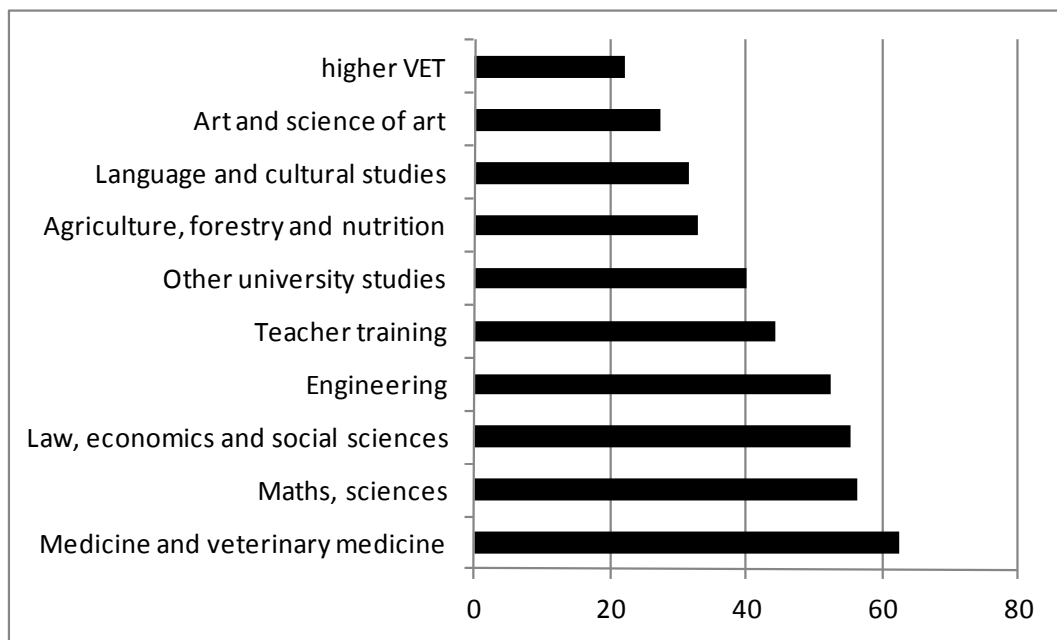
Ratio of the unemployment rate of 20-24 year-olds to those of adults (aged 25-64), 2009



Source: OECD (2010) OECD Stat Extracts website, <http://stats.oecd.org/Index.aspx>

Figure B.3 Returns to higher education by field of study

in %



Source: Autorengruppe Bildungsberichterstattung (2008), *Bildung in Deutschland 2008, Ein indikatorengestützter Bericht mit einer Analyse zu Übergängen im Anschluss an den Sekundarbereich I*, Bertelsmann, Bielefeld.

Table B.1 Comparison non-traditional routes to higher education

Country	Share of all HE students with non-traditional routes to HE (in %, in 2008)*	Share of all HE students with non-traditional routes to HE (in %, in 2008)**	Work experience prior to HE (in %, in 2008)***	HE Entrance qualification based on adult learning (in % of total HE students) ****	HE Entrance qualification based on all VET (in % of total students) ****	Completion of all VET prior to HE (U / UC), in % *****
Australia					12	
Austria	6	6	23		40.5	43.2 (in-company 3; secondary VET school 40.2)
Czech Republic	0	0	28		51	NA
France	3	0	35		13	18.8 (b)
Germany	5	1	32		1.4	25
Japan					(2.8)	
Korea					NA	
Norway	8	8	No data		NA	9 (a) (11.3 / 5.7)
Sweden	36	6	56		9	NA
Switzerland	9	9	39		NA	NA
UK (England and Wales)	15	15	No data		NA	8.4
USA					NA	

* Based on national definitions of “non-traditional” (Orr, 2008, p 40).

** Based on a general definition of “non-traditional” as “access to higher education through the validation of prior learning and work experience – with or without a higher education entrance examination” (Orr, 2008, p. 41).

*** Based on Orr, 2008, p. 45.

**** Based on Orr, 2008, data annex, subtopics 7 and 8. For non-EU countries, data is obtained from national statistics.

Only data for year following upper secondary graduation.

Only data for upper secondary education (in technical upper secondary schools).

***** Based on national surveys (Austria: Unger/Wroblewski, 2006, p. 159, Table 106 and 20, Table 2; Germany: Isserstedt *et al.*, 2007, p. 2; France: OVE, 2006, p. 9; Norway: Statistics Norway, 2006, Table 5.8; UK: Foster, 2009, p. 109, Table C.2).

Notes:

There are different definitions of “non-traditional” in all countries. Vocationally-oriented upper secondary certificates count as non-traditional route in Sweden, while it is regarded as a traditional route in Austria (where 36% of students hold such a degree). Upper secondary certificates obtained through adult education are seen as “non-traditional” in for example Sweden and Germany, whereas it is regarded as traditional in Switzerland. The validation of prior work experience or competencies seems to be a non-traditional route in most countries (Orr, 2008, p. 41).

Students enrolled in higher education can have prior work experience. There are three main groups that can be distinguished. Firstly, students without upper secondary education certificates who enter higher education based on the validation of prior work experience or on special entry examinations. Secondly, students who leave school without general upper secondary education certificates and enter the job market (through VET) and obtain access to higher education through adult upper secondary education.

These students are mainly considered to take a traditional route to higher education as they eventually obtain an upper secondary education certificate. Thirdly, students who complete upper secondary education, but decide to postpone the entry to higher education to complete vocational education first. These students are mainly seen as taking a traditional route as well (Orr, 2008, p 45).

Country-specific notes:

Australia: According to Table C.7 of the Universities Australia Statistics, in 2003, 9% of students had complete or incomplete TAFE course experience, and about 3% were admitted based on professional qualifications or experience based examinations (Universities Australia, 2005).

Austria: Eurostudent, Subtopic 7: Prior VET is BHS - *upper secondary vocational school with final examination* (35.6%), *Studienberechtigungsprüfung – university entrance examination* allowing for studies in specific course/area of study (2.7%), *Berufsreifeprüfung – general matriculation examination* allowing for unlimited access to university (2.2%). This does not include students who completed VET and made a “late” AHS – *general upper secondary university entrance examination*. The BHS can also be made by students who completed dual VET (Euroguidance Österreich, 2010a: Berufsbildende Schulen). The *Studienberechtigungsprüfung* can also be completed by students with “course relevant work experience” (not necessarily VET). There is an external examination (*Externistenprüfung*) through which people can obtain a general university entrance qualification AHS or BHS outside of regular schools. Preparation is mainly done in evening schools, *etc.* (Euroguidance Österreich, 2010b: Externistenprüfung (AHS-, BHS-Matura)).

Czech Republic: Eurostudent, Subtopic 7: Higher education access is linked to the *Maturita* certificate only, which can be obtained in three types of school: general grammar school (43%), secondary professional/technical school (45%) and vocational school (6%). In secondary professional/technical schools, work placements last for 8 weeks or less (ReferNet, 2009, p. 37), therefore they are placed in the vocational school row. In vocational schools, practical training takes up about 30% of the curricula, but takes mainly takes place in workshops (ReferNet, 2009, p. 37), therefore these schools are also placed in the vocational school row.

France: Eurostudent, Subtopic 7: The path into higher education is mostly the baccalauréat. However, students can complete a baccalauréat professionnel or technologique. 10.34% of students complete a bac technologique, whereas 2.58% complete a bac professionnel. According to a 2006 study, about 18.8% of students have a “*baccalauréat professionnel*” or a “*baccalauréat technologique*”. Only 3.8% have the former whereas 15% have completed the latter (OVE, 2006, p. 9). As both lead to rather vocationally oriented professions, they were both counted for the above table. However, no data could be found about how many students entering higher education have completed a full vocational education or training.

Germany: Eurostudent, Subtopic 7: Only 1.4% of students of higher education gained access through the “third path to HE” (*Dritter Bildungsweg*), which allows vocational students with excellent exams to access higher education. In general, about 25% of students in higher education have completed some kind of VET. However, many of them have a general university entrance qualification (*Abitur or Allgemeine Hochschulreife*) (Isserstedt *et al.*, 2007, p. 2).

Japan: According to national education statistics, in 2005, there have been 603 760 new entrants to higher education. 18.5% of these students had postponed their entry, *i.e.* had graduated from upper secondary school in 2004 or before. 2.8% of students graduated from secondary schools abroad or from specialised training colleges or passed a university entrance qualification test (MEXT, 2006a, Table 094 New Entrants (University), own calculations). Additional info: In 2005, 19% of upper secondary graduates continued to specialised training colleges, whereas 0.7% undertook vocational training and 17% entered regular employment (MEXT, 2006b, Table 047 First Destination of New Graduates, own calculations).

Norway: Eurostudent, Subtopic 7: About 91.9% of pupils access higher education through the examination *Generell studiekompetanse* (general study qualification). However, this might include people who went through a vocational path, as it allows students who completed ISCED levels 3A and 3B or similar qualifications at ISCED levels 4A and 4B. 4.2% of students have access to higher education only based on personal experience and competence (not necessarily a completed VET). This path is mostly used by art schools.

Table 5.8 shows the number of students according to general or vocational upper secondary education and what they did the year following their graduation. There is a relatively high number of students (around 50%, even for those with a general educational background) who are not in education the year after graduating from upper secondary education, which might be explained by the obligatory military service for male citizens. According to this table, in 2004, about 9% of all university or university college students had a vocational education background. Within the group of students with a vocational education background, about 4% go on to university or university colleges the year after they graduate. However, one must bear in mind that the table only looks at the year following upper secondary graduation, meaning that (especially when taking the military service into account) the actual numbers might be higher, as some people might postpone their entry to higher education. Data from Statistics Norway, 2006, Table 5.8.

Sweden: Eurostudent, Subtopic 7: About 9% of students in higher education gained access through vocationally oriented upper secondary education. About 5% gained access through the validation of work experience, and 1% through the validation of actual competencies.

Switzerland: Eurostudent, Subtopic 7: 91.3% of students gain access through the *Matura* (higher education entrance qualification). However, this category includes both general *matura* and professional *matura*, and the *matura* obtained through adult education. About 8.7% of students gain access through special examinations, e.g. the Federal proficiency certificate (*Fähigkeitszeugnis*).

UK: Eurostudent, Subtopic 7: 54% of students gain access through GCE or equivalent and GNVQ or equivalent. This means that both general and vocational examinations are mixed up. 11.2% gain access through vocational certificates (ONC, OND, BTEC, etc.), recognition of previous experience, advanced modern apprenticeships, etc.

According to the Foster (2009), alternative routes in the British system are defined as accessing higher education without qualification, with vocational education, and not more than one A level qualification (but in report, also mature students are counted who access higher education for first time without any entrance qualification) (Foster, 2009, p. 13). About 15.8% of students have taken an alternative route to higher education (excluding mature students) (Foster, 2009, p. 109, Table C.2). 53% of students taking an alternative route do have partial or full vocational qualifications, which would mean about 8.4% of all students in 2006 (Foster, 2009p. 18 and 20, own calculations).

USA: In 2005, 11.1% of students admitted to a 4-year course in a degree-granting institution (community college) were admitted based on a demonstration of competencies (ies, 2008: Special Analysis 2008, Table 1). In 2006, 7.8% of students who enrolled in 2003 in a post-secondary degree had a certificate/diploma (NCES, 2006: DAS, Postsecondary – Students, Variable: ATHTY3Y, Highest degree completed as of 2006).

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Learning for Jobs

OECD Reviews of Vocational Education and Training

GERMANY

For OECD member countries, high-level workplace skills are considered a key means of supporting economic growth. Systems of vocational education and training (VET) are now under intensive scrutiny to determine if they can deliver the skills required.

Learning for Jobs is an OECD study of vocational education and training designed to help countries make their VET systems more responsive to labour market needs. It will expand the evidence base, identify a set of policy options and develop tools to appraise VET policy initiatives.

Germany has a very well developed and widely respected VET system with a strong dual component integrating learning in schools and workplace training. VET policy, design and delivery are strongly supported by social partner engagement and institutionalised VET research capacity. At the same time the German system confronts several challenges: the transition system is costly and suffers from undue fragmentation; more attention could be placed on adequate career guidance and basic skills provision; assessment is dominated by the Chamber exam; and only very few VET graduates take up university studies despite reforms to open access considerably.

Among the review's recommendations:

- Create a coordinating committee for the transition system within each Land to improve co-operation between stakeholders and make transition offers more transparent.
- Reform the career guidance system to deliver well-informed guidance to all. Fix lead responsibility for career information and guidance in a single governmental agency.
- Assess the literacy and numeracy skills of VET students and provide basic skills instruction for those in need of remediation.
- Make inclusion of the school mark in the final certificate mandatory and include an explicit assessment of literacy and numeracy skills in the final school exam. In the longer run, merge the Chamber exam and the school exam into a single final assessment.
- Open access to tertiary education further and address transition barriers perceived by students. Promote dual university programmes and encourage more flexible university offers and the recognition of prior learning and experience.

OECD is conducting country VET policy reviews in Australia, Austria, Belgium (Flanders), the Czech Republic, Germany, Hungary, Ireland, Korea, Mexico, Norway, Sweden, Switzerland, the United Kingdom (England and Wales), and the United States (South Carolina and Texas). A report on Chile and a report on the People's Republic of China have also been published. The initial report of *Learning for Jobs* is available on the OECD website. The final report on the study's findings is to be published in 2010.

Background information and documents are available at www.oecd.org/edu/learningforjobs.