Chapter 2. **Developing work-based learning in Israel**

Chapter 2 argues that the development of vocational education and training (VET) in Israel could be significantly aided through attention to work-based learning, building on a range of current initiatives to develop apprenticeship and work-based learning both for young people and adults. This would involve an expansion of apprenticeship programmes and development of systematic shorter work-based learning placements in selected school-based VET programmes. Currently apprenticeship is designed as a path for drop-outs and is seen as a low status option. To become an attractive option both to young people and employers it should be fully integrated into the mainstream upper-secondary system. For adults, diverse work-based learning measures, including apprenticeship, may help to alleviate skills shortages and better integrate disadvantaged social groups into the labour market.

The statistical data for Israel are supplied by and under the responsibility of the relevant Israeli authorities. The use of such data by the OECD is without prejudice to the status of the Golan Heights, East Jerusalem and Israeli settlements in the West Bank under the terms of international law.
Introduction: Building work-based learning in different contexts

*Work-based learning (WBL) can help to meet some major challenges faced by Israel*

As explained in Chapter 1, Israel faces major challenges both in providing the skills needed by a growing economy and in integrating more disadvantaged Israelis into the labour market. This chapter argues that VET can help to address these challenges but at present the VET system is weak relative to the scale of these challenges. This chapter first discusses different examples of work-based learning across OECD countries and in Israel. Second, it argues that the current VET system in Israel can be strengthened through a more effective use of apprenticeships and expansion of work placements in technological programmes.

*VET and work-based learning in other countries*

*Work-based learning plays a key role in many VET programmes*

WBL is an integral part of apprenticeship programmes, so that, for example in Switzerland a student cannot start an apprenticeship programme unless he or she secures a work-based placement with an employer. Sometimes WBL is a mandatory part of a programme based in schools or colleges. At the other extreme, some VET programmes are heavily concentrated in schools and colleges, with practical elements delivered in school workshops, and work-based learning being an optional and sometimes minor element.

*WBL in apprenticeship and some other programmes can be highly structured*

Work-based learning is learning through participation in, and/or observation of work, commonly in the workplace and under the supervision of an employer. It includes diverse activities, ranging from short work placements with employers provided to school students at one end of the spectrum, to programmes, including apprenticeship, involving extensive training on employer premises. Apprenticeship and some other vocational programmes with mandatory components of work-based learning typically lead to a recognised qualification, and involve a structured mix of:

- work placement with an employer that leads to the development of new skills, and that can involve productive work and,
- off-the-job education and training at school, college or other educational and training provider involving no or limited productive work.

*The sequencing of on and off-the-job training varies between apprenticeship systems*

Extensive work-based learning is at the core of apprenticeship programmes, where working with employers typically represents at least 50% of the programme duration. The time-sequencing of on and off-the-job education and training varies between different apprenticeship systems – sometimes involving one or two days a week in a school or college as in most ‘dual system’ apprenticeships, but sometimes in larger time chunks for the off-the-job component, for example in Canada and Ireland. In some cases a full apprenticeship is preceded by a pre-apprenticeship programme, which can involve general education, as well as, quite often, work placements. Such programmes can target disadvantaged youths who would not be able to complete an apprenticeship without targeted preparation. Denmark, Germany, the Netherlands, Norway, Switzerland are among countries with strong apprenticeship systems, while England (United Kingdom) is
currently going through an ambitious reform that should lead to a significant expansion of apprenticeships, including the development of degree apprenticeships in partnership with universities.

In some countries with large apprenticeship system most apprentices are young

Some apprenticeship systems serve primarily to transition young people from school to work. In Switzerland for example, in 2014/15 three-quarters (76%) of apprentices were under 20 (Mühlemann, 2016). But other countries have a more even mix of adult and youth apprentices, with some of the adults already having significant work experience. In Germany in 2014 around 56% of apprentices were under 20, and a further 20% were between 21 and 23 years old, the older apprentices being a mix of those who complete the academic upper-secondary Abitur before entering apprenticeship, and others who have often spent some time in pre-apprenticeship programmes. In Australia in 2016, apprentices and trainees under 20 and those aged 20-25 represented 34% and 43% of all apprentices and trainees respectively (Australian Bureau of Statistics, 2016). In 2010 and 2011, 20 year-olds and older represented more than 50% of all apprentices in Finland (Stenstrom and Virolainen, 2014).

Table 2.1. The duration of apprenticeship programmes and how apprentices spend their time

<table>
<thead>
<tr>
<th>Country</th>
<th>Duration of the programme including off-the-job period and work placement with the company</th>
<th>Time allocation in apprenticeship programmes</th>
<th>Workplace time spent in productive and non-productive tasks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Austria</td>
<td>3-4 years</td>
<td>66% - work place 20% - off-the-job education and training 14% - leave and sick days</td>
<td>83% of the time with the company is spent on productive work</td>
</tr>
<tr>
<td>Denmark</td>
<td>3.5-4 years (typically)</td>
<td>Missing</td>
<td>Missing</td>
</tr>
<tr>
<td>England, UK</td>
<td>Min. 12 months - average around 15 months</td>
<td>At least 20% in off-the-job education and training</td>
<td>Missing</td>
</tr>
<tr>
<td>Germany</td>
<td>Mostly 3 years</td>
<td>56% - work place 29% - off-the-job education and training 14% - leave and sick days</td>
<td>77% of the time with the company is spent on productive work</td>
</tr>
<tr>
<td>Israel</td>
<td>3-4 years</td>
<td>Work-based learning is provided in the last two years, 1-3 days per week</td>
<td>Missing</td>
</tr>
<tr>
<td>Netherlands</td>
<td>2-4 years</td>
<td>Typically, first two years are spent in school and the last two with the company</td>
<td>1 year of training 1 year of productive work</td>
</tr>
<tr>
<td>Norway</td>
<td>Mostly 4 years (Shorter programmes are available for disadvantaged students)</td>
<td>Apprentices spend as much time in school as in a work place with the company</td>
<td>Missing</td>
</tr>
<tr>
<td>Sweden</td>
<td>3 years</td>
<td>Missing</td>
<td>Missing</td>
</tr>
<tr>
<td>Switzerland</td>
<td>3-4 years (2-year programmes in some occupations leading a lower level qualification)</td>
<td>59% - work place 27% - off-the-job education and training 14% - leave and sick days</td>
<td>83% of the time with the company is spent on productive work</td>
</tr>
</tbody>
</table>


Outside apprenticeship, WBL assumes different forms

Some common models of WBL include:

- Some school and college-based VET programmes may include work placements with employers but typically not exceeding 50% of the programme duration. For
example, in Finland a work placement of at least 6 months is mandatory in upper-secondary vocational programmes, and represents about 20% of the programme duration (Finnish National Board of Education, 2016).

- Work placements at post-secondary level sometimes require students to carry out projects with employers on a specific topic. For example in Denmark, such placements occupy a minimum of three months in two-year professional programmes, and a minimum of six months in three year professional bachelor programmes (Field et. al., 2012).

- Some more informal forms of work-based learning do not provide a full preparation for a specific occupation, but instead are intended to allow students to explore future career options, familiarise themselves with the work environment and acquire some work relevant experience. For example, in the United States students follows or “shadow” the employee as normal work activities are performed over the course of a working day (Kuczera, 2011).

Different forms of WBL may target different age groups

Many countries have different programmes with shorter and longer work placements, sometimes reflecting the needs of different learner groups. In the Netherlands, there are two vocational routes at upper-secondary level: apprenticeships with on-the-job time representing nearly 70% of the programme duration on average, and school-based vocational programmes with mandatory work placements representing around 30% of the programme duration. Both paths may lead to the similar vocational qualification, but the school-based option is more popular with younger students. 73% of students in this programme are under 20, compared with 30% in the apprenticeship route (Fazekas and Litjens, 2014; Christoffels, Cuppen, and Vrielink, 2016). Similarly, in Finland vocational programmes in schools with shorter work placements are more popular among young people, while apprenticeships serve older students with some work experience.

VET and work-based learning in Israel

Technological programmes under the MoE now occasionally involve WBL

Recently a component of work-based learning was introduced in technological programmes, but it remains optional. It provides students with an opportunity of observing the real work during visits to employers. In this respect technological education and training in Israel is similar to some other countries such as Czech Republic, Italy and Korea where work placements in school-based VET programmes are not mandatory. In Israel, the government provides a subsidy to employers offering these short work placements.

There are also apprenticeships for young people

In 2016, about 3% of upper-secondary (high school) students in Israel (11 600) studied in apprenticeship programmes lasting four years (grades 9-12), under the responsibility of the Ministry of Labour, Welfare and Social Services (MLWSS). In apprenticeship, education and training in the first two grades is provided solely in school while in grades 11 and 12 students alternate education in school with training in companies. Depending on the profession, students spend 1 to 3 days per week in the work placement (Ben Rabi et al., forthcoming). Apprenticeships are mainly provided to disadvantaged students. To help them successfully complete the programme they are provided with targeted support and assistance.
WBL is increasingly an element in technician and practical engineering programmes

There have also been efforts to develop work-based learning at post-secondary level in technician and practical engineer programmes. As the team was informed during the study visit some students in engineering programmes carry out a final project with industry during the last four months of the programme. To encourage the involvement of employers, and so provision of work placements to students, a council for certified practical engineers and technicians was created (Pur and Littig, 2017). This initiative is in line with conclusions of the previous OECD study Skills beyond School (Musset, Field and Kuczer, 2014).

Table 2.2. Vocational programmes for adults involving work-based learning

<table>
<thead>
<tr>
<th>Class in Workplace</th>
<th>Target population</th>
<th>State funding to employers</th>
<th>State funding to individuals</th>
<th>Duration</th>
<th>Contract and apprentice salary</th>
<th>Content and qualifications</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- The person cannot be employed by the employer at the beginning of the course. In practice participants are unemployed or job seekers; - For a course to open an employer or a group of employers should recruit at least ten participants (although this varies depending on the profession)</td>
<td>- The employer gets the cost of the course reimbursed: 75% during the course and 25% conditional on the employing at least 1/3 of participants. If the theoretical part takes place in a college the government transfers funds to the college. - Additional grant for employing graduates from disadvantaged groups</td>
<td>- Since courses are paid by the state they are free of charge to individuals; - Subsistence allowance of NIS 1 500 (around EUR 350) per month; - Grant upon successful completion and receiving a certificate</td>
<td>4-12 months depending on the sector and profession</td>
<td>- There is no contract between the employer and the participant; - Participants do not receive pay during the programme?</td>
<td>- Includes practical (40-60%) and theoretical training (in a workplace or a college); - Content is defined by the Ministry of Labour in collaboration with the employer; - Upon passing an examination, participants receive a certificate delivered by the Ministry of Labour</td>
</tr>
<tr>
<td>Starter</td>
<td>- Targeted at unemployed, job seekers and low-paid workers who are at least 18-year-olds; - Provided in sectors with skills shortages; - For a course to open an employer or a group should recruit around 20 participants</td>
<td>- One-off payment of NIK 5 400 (EUR 1 254) towards the wage of the mentor and the apprentices; - Grant of NIK 1 500 for every participant who passes the exam</td>
<td>Theoretical training in a college is paid by the Ministry; - Participants are eligible for travel expenses and receive a stipend during the first stage of the programme (NIK 1 500 per month, with the total amount not exceeding NIS 6 000)</td>
<td>6-9 months</td>
<td>- The programme management signs a contract with the employer, and a separate contract with the college; - The apprentice signs a commitment. - The apprentice receives a wage in the 2nd stage of the training while in the work place. The wage should be above the min wage (NIK 5 000) and he/she receives social benefits</td>
<td>- Stage 1 (6-8 weeks); theoretical and practical studies at a college -Stage2 (4-7 months); participants alternate 3 days a week in the college and 3 days in the work place; - Certificates are delivered by the Ministry of Labour; - Curriculum is planned by the Ministry in collaboration with the employer</td>
</tr>
</tbody>
</table>

Several programmes for adults involve WBL

Some of the programmes for adults involve substantial work experience. This chapter discusses two of these programmes: Class in the Workplace and Starter. Hereafter these programmes are called work-based learning/apprenticeship programmes for adults. The Starter has been launched recently as a pilot with 214 individuals participating. First evaluations are positive and there are plans to expand it. A separate ‘on-the-job training’ programme, targeting mainly unemployed people and job seekers, will not be discussed as it does not lead to a formal qualification and does not include off-the-job education and training. For more details on this programme see (Ben Rabi et al., forthcoming). Class in the Workplace and Starter remain very small. Details of Class in Workplace and the Starter are provided in Table 2.2.

Policy options: Developing work-based learning for young people and adults

Work-based learning in programmes for young people

The current school-based VET system, enrolling the majority of VET students, serves some students well by providing them with strong academic skills and preparing them well for entry to university. But others are left behind. These are students who do not pass matriculation exams (Bagrut), who drop out during the course, and who do not continue to higher levels of education for other reasons. These young people are currently very poorly equipped for entry to the labour market or for further study. International experience shows that students with this profile could benefit from strong VET programmes with substantial components of work-based learning.

- To improve outcomes from initial VET, Israel should expand and develop the work-based learning component of VET programmes. This would involve an expansion of apprenticeship programmes, and development of systematic shorter work-based learning placements in selected technological programmes.

- Currently apprenticeship is designed as a path for drop-outs and is seen as a low status option. To become an attractive option both to young people and employer it should be fully integrated into the mainstream upper-secondary system. This means that the requirement of a special exemption to enter an apprenticeship should be dropped.

Work-based learning in programmes for adults

The labour market in Israel is tight, with few jobseekers and many vacancies. Poor basic skills (as discussed in Chapter 5), and an initial VET system with limited focus on labour market needs, further exacerbate skills shortages. Apprenticeship programmes for adults, offering both occupation-specific skills and basic (generic) competences, could help to alleviate the problem.

- To expand apprenticeship programmes for adults Israel should devise incentive and support measures based on analysis of relevant costs and benefits for different target groups (e.g. by gender, ethnic and religious minorities, age) as the individual costs and benefits can vary.

Policy arguments: The rationale for reform

Several arguments support the policy options set out above, proposing an orchestrated strengthening of work-based learning in vocational programmes for young people and
adults. First, there is a very wide range of evidence from other countries on the diverse benefits of work-based learning. Second, the labour market returns from most strands of technological education – which in most cases do not involve work-based learning – are weak, contrasting with international evidence showing good returns to vocational programmes involving work-based learning. Third, the current organisation of work-based learning in Israel, particularly in respect of young people, tend to stigmatise it as an option of last resort. Fourth, to resolve this last challenge and for wider reasons, apprenticeships for young people need to be properly integrated into the education and training system as a whole. Fifth, apprenticeship programmes for adults need to be further developed, taking account of how the costs and benefits of participation bear on different potential target groups. These five arguments are detailed below.

**Policy argument 1. International evidence suggests multiple benefits from work-based learning**

*WBL yields a diverse range of benefits*

Work placements have been widely recognised as an effective means of equipping people with generic and job relevant skills by combining learning and work, as summarised in (OECD, 2010).

- Workplaces provide a strong learning environment because they allow students to acquire practical skills on up-to-date equipment and under trainers familiar with the most recent working methods and technologies. Rapidly changing technologies mean that equipment quickly becomes obsolete and VET institutions are often unable to afford modern equipment. Workplace training will therefore often be more cost-effective, since it makes use of equipment already available in firms.

- In the workplace, students develop key soft skills, such as dealing with customers, work discipline, teamwork, problem-solving skills etc. Much evidence indicates the growing labour market importance of soft skills (Deming, 2015), and suggests that many soft skills are more effectively learnt in workplaces than in classrooms (OECD, 2010).

- WBL improves school-to-work transition. There is some evidence that VET graduates who have experienced more WBL (such as apprentices) have stronger labour market outcomes, in terms of duration of search, unemployment spells and wages, than those who choose another type of upper-secondary education (Bratberg and Nilsen, 1998; van der Klaauw et al., 2004; European Commission, 2013). Overall, countries with a high share of youth in apprenticeships have lower rates of disconnected youth and youth experiencing a difficult transition to employment (Quintini and Manfredi, 2009). First labour market experiences have lasting consequences, and youth unemployment has long-term ‘scarring’ effects with high costs for both individuals and society (Bell and Blanchflower, 2011; Nilsen and Reiso, 2011).

- WBL ensures VET provision matches labour market needs. Employer willingness to offer work-based learning is an indicator of their support for the associated vocational programme. Employers can influence the number and mix of places in VET through their willingness to offer workplace training – for example in apprenticeships. Even short work placements can serve to signal the skills needs of employers. VET colleges and schools, cannot immediately respond to rapidly
changing demand, as new equipment is costly, teachers and trainers cannot be easily changed or retrained, and programmes take some time to complete. This means that the mix of provision tends to be biased towards the training that schools and colleges can easily provide. Programmes which are more reliant on WBL can therefore be more responsive to changing employer demand.

- WBL yields both useful work for the employer, and a means of recruitment. Students who undertake useful work generate a productive benefit for the employer (see Schweri et al., 2003; Mühlemann, 2016; Kuczera, 2017). Employers taking apprentices can observe the performance of the apprentices and recruit the best from among them. Unlike school-based VET, apprenticeships are therefore automatically linked to labour market needs and the placements can serve to signal the skills needs of employers. In Israel, apprenticeship is provided in half of the schools under the responsibility of the MLWSS for the Arab population and all the schools linked to industries.

Policy argument 2. Outcomes from upper-secondary VET are good for some Israeli students, but others are left far behind

15-year-old students in Israel have strong preferences for skilled occupations

Upper-secondary VET typically prepares young people for semi-skilled occupations. The Programme for International Student Assessment (PISA) 2015 data show that in all countries 15-year-olds say that they would prefer to work in skilled rather than in semi-skilled jobs. But these preferences vary across countries. In Israel 90% of young people aspire to jobs requiring high-level skills, more than other countries participating in the survey with the exception of Mexico, and fewer young people than elsewhere wish to work in semi-skilled occupations. Despite these aspirations, 40% of upper-secondary students enrol in VET programmes. Possible explanations for this difference between preferences and subsequent enrolment include:

- In Israel, unlike other countries, the more demanding upper-secondary VET tracks prepare young people for skilled occupations.
- Some forms of upper-secondary VET in Israel lead to jobs with low pay and poor career prospects and are therefore seen as undesirable by parents and students. But academic selection forces many students to enter these less demanding VET programmes.
- Israeli 15-year-olds have unrealistic aspirations, which are subsequently brought into line with reality through academic selection into VET tracks.

All these explanations may apply in part, perhaps to different sub-tracks of upper-secondary VET students. Better understanding of the labour market outcomes from the different sub-tracks of upper-secondary VET would help to identify the explanations that apply, and possible policy responses.
Figure 2.1. In Israel, more young people aspire to skilled jobs than in most other countries

2015 PISA, % of 15-year-olds by desired occupation

Note: See ILO, 2012, International Standard Classification of Occupations. Structure Group definitions and correspondence tables, ISCO-08, ILO, Geneva. In this report occupations were grouped in four categories: Skilled occupations such as professionals, managers, technicians and associate professionals, which typically require post-secondary education and training including post-secondary vocational and longer academic degrees; white-collar semi-skilled occupations, including clerical support and sales workers, typically requiring lower or upper-secondary education and occasionally shorter post-secondary vocational qualifications; blue-collar semi-skilled occupations, with education and skills requirements similar to the previous category above; and elementary occupations relying on skills corresponding with primary education. Source: OECD, PISA 2015 Database, www.oecd.org/pisa/data/2015database/.

In Israel nearly all upper-secondary VET students are in technological education

Given that apprenticeship in Israel is currently small in scale, and technological education under the Ministry of Education enrolls the overwhelming majority of upper-secondary VET students, the measured outcomes from upper-secondary VET mainly reflect outcomes from technological education (see Box 2.1). The discussion on outcomes which follows will also take into account differences in students’ ability, preferences and life circumstances, and how the current system addresses these diverse needs.

Box 2.1. Analysis of outcomes from upper-secondary VET in Israel, with the Survey of Adult Skills

The analysis which follows draws on data from the OECD’s Survey of Adult Skills, which measures the skills of individuals and provides information on a range of background characteristics.

Upper-secondary VET qualifications refer to qualifications identified by countries as vocational. In Israel upper-secondary VET designates technological qualifications (with or without matriculation). Upper-secondary VET graduates are those who graduated from technological education, and for whom upper-secondary VET is the highest
qualification. The Survey of Adult Skills data does not allow to identify those who completed a higher-level qualification on the top of upper-secondary VET.

The data from the Survey of Adult Skills does not allow to distinguish different sub-tracks within technological education and to capture large differences in outcomes from different paths. The presented results are averages for all the technological sub-tracks combined.

**Technological programmes sometimes prepare for higher levels of education**

In Israel around 16% of technological graduates aged 16-40 were, at the time of the survey, continuing in education. Given that education and training was reformed in Israel in the 1990s, the sample was restricted to 16-40 year-olds to capture only the effect of the current system. Most (90%) were studying at post-secondary level (in technician and practical engineer programmes, or those ending with a bachelor degree). In other OECD countries, upper-secondary VET graduates are the most likely to be continuing in education in New Zealand, Slovenia, the Netherlands and Chile (see Figure 2.3). In Chile and Slovenia the majority of those in education study in post-secondary programmes while in New Zealand, the Netherlands and Australia around one-third enrol in other upper-secondary programmes.

**Figure 2.2. Share of upper-secondary VET graduates enrolled in education**

16-40-year-olds with upper-secondary VET as the highest qualification. In Israel upper-secondary VET refers to technological education

*Note: Results are presented only for countries with a sufficient number of observations, and where VET can be distinguished from academic programmes.*


*StatLink: [http://dx.doi.org/10.1787/888933734816](http://dx.doi.org/10.1787/888933734816)*
Technological education on its own has limited labour market benefits

In Israel, the wages of technological graduates (with or without matriculation) do not differ from wages of individuals with similar characteristics (age, gender and parental education) but with lower (below upper-secondary) qualifications (see Figure 2.3). These findings contrast with those from countries where apprenticeship accounts for a large proportion of VET (Austria, Germany, the Netherlands and Norway) and where VET yields a large wage premium. Kuczera (2017) shows that, in these countries, apprentice graduates realise a significant wage premium relative to similar adults (in terms of individual characteristics, numeracy skills, and the company size) but with education below upper-secondary level, and even in comparison with those with academic upper-secondary qualifications.

**Figure 2.3. In Israel, there is limited evidence for a wage premium from technological education**


*Note:* Coefficients from the ordinary least squares (OLS) regression of log hourly earnings. Coefficients adjusted for age, gender and parental education. Wage outliers were dropped, namely wages above the 99th percentile and wages below the 1st percentile. Results statistically significant (at 5%) are marked in darker tone. Results are presented only for countries with a sufficient number of observations, and where VET can be distinguished from academic programmes. Those still in education are excluded from the analysis of the labour market outcomes as they are often in part-time and unqualified jobs. The analysis was performed in the age group 16-40. Given that many young Israelis are in the army a similar analysis was run among those aged 21-40 year-olds. The results of the two analyses were consistent and lead to similar conclusions. Adding as a control variable performance on numeracy and the number of employees working for the employer diminishes the effect of the VET qualification on wages in most countries. This shows that VET graduates are more likely to work for larger employers and have better numeracy skills than those without upper-secondary qualifications. With PIAAC data it is unfortunately impossible to say whether better numeracy skills result from the quality of teaching in VET programmes or reflect the fact that entrants to VET paths have stronger basic skills than those not continuing in education.

Many technological graduates perceive their jobs as unqualified

In Israel, one in five technological graduates (and not in education) work in skilled and semi-skilled jobs (by ISCO classification). In comparison to many other countries, graduates from technological programme are less likely to work in elementary occupations in principle requiring no or low-level qualifications. Despite this, 60% consider their jobs as 'unqualified' (they report that no formal education or education below upper-secondary is needed to get their current job) more than in many other countries (see Figure 2.4). This might mean that Israelis are just more pessimistic about their jobs. But it may also reflect less demanding work content for some jobs in Israel, in comparison with nominally similar jobs in other countries. This last possibility would be consistent with an observed gap between labour productivity in Israel and OECD countries on average, and across sectors in Israel. In summary, technological graduates on average, more often than their counterparts in some other countries, work in jobs they see as 'unqualified', and do not realise any wage advantage from their technological qualification. This outcome may be because technological graduates lack higher-level skills, or because, despite good skills, they are trapped in jobs reliant only on low-level skills.

Figure 2.4. More than half of Israel’s upper-secondary VET graduates see their job as unqualified

16-40-year-olds with upper-secondary VET as the highest qualification and not in education who report being in jobs requiring no formal education or qualification below upper-secondary. In Israel upper-secondary VET refers to technological education.


StatLink http://dx.doi.org/10.1787/888933734854

There are large differences in outcomes from three technological paths

Studies which distinguish between different technological paths show that there are large differences in outcomes across the three major technological tracks. A recent study shows that graduates from engineering sub-tracks earn 17% more and those from the lowest sub-tracks earn 12% less, than those who graduated from academic upper-secondary paths.
Graduates from the ‘middle level’ sub-tracks of technological education have similar earnings as the comparison group (Ministry of Finance, forthcoming).

Some students are not well-served by the current system

Currently, around 40% of upper-secondary students enrol in technological education and youth apprenticeships, and 60% in academic programmes (Taub Center, 2015). In 2014, 53% of the age cohort (17-18 year-olds) passed the matriculation exam required to study at university (Lewis, 2015). These are students who are likely to continue in education at higher levels later on. But Ministry of Finance (forthcoming) shows that the pass rate in the matriculation exam ranges from 75% in engineering paths to 40% in lower sub-tracks of technological education. These variations are due not only to differences in academic achievement and socio-economic background in the different student groups, as could be expected, but also to differences in the intensity and quality of academic preparation that takes place within these programmes (Taub Center, 2015).

Drop-out rates are substantial

Over 40% of teenagers in Israel say that they feel alienated from school and nearly one-third are often absent from school (Skop, 2014). In 2012, 22 257 students dropped out at some point during secondary education (grade 7-12), representing 3% of the student population in the relevant grades. Around 30% of those who dropped out enrolled in alternative education such as yeshiva schools and apprenticeships run by the MLWSS. The highest drop-out rates were in Haredi and Arab communities, and among recent migrants (Salansky and Portnoy, 2013).

These findings suggest that strengthened WBL could help VET students realise better outcomes

In summary, the current upper-secondary VET system, particularly in the more demanding technological sub-tracks, serves some students well by providing them with strong academic skills, allowing them to continue to university and leading to well paid jobs. But other students do not pass matriculation exams, drop out during the course of studies and do not continue to higher education for other reasons. These students are poorly equipped for further education, they often work in jobs which they perceive as requiring no qualifications, and for wages no greater than those available to unqualified workers. This is both wasteful and damaging to social inclusion. Given international evidence that strong VET programmes, particularly those involving apprenticeship, can offer rewarding careers to graduates, there are good grounds for Israel to build on its current VET system through an emphasis on apprenticeship, work-based learning and basic skills, as a means of serving the economy, improving productivity, and integrating young people into the labour market.

Policy argument 3. Apprenticeship is too often seen in Israel as an option of last resort

In Israel, youth apprenticeship is designed as a path for drop-outs

Access to apprenticeships at upper-secondary level, administered by the MLWSS, is currently limited to students who have dropped out from schools supervised by the Ministry of Education, or are at risk of dropping out and have received an exemption from attending the regular education system. This inevitably stigmatises apprenticeship in the eyes of both students and employers.
In other countries, apprenticeship can be high status

In other countries some apprenticeship programmes can be very demanding in terms of academic requirements. For example, in Switzerland, of top performers on PISA, 25% enter the most demanding apprenticeship programmes leading to the professions of electronics engineer, commercial employee, optometrist and medical laboratory technicians (Swiss Coordination Centre for Research in Education, 2014, p.119). At the same time in Switzerland, alongside regular apprenticeships lasting 3 to 4 years, shorter, two-year apprenticeship programmes are available to students who did not secure a regular apprenticeship or were at risk of dropping out (Swiss Coordination Centre for Research in Education, 2014, p.148). Since 2002 students who successfully complete two-year apprenticeship have received a certificate that enables them to continue in education and training. Evaluations show that graduates from certified two-year programmes have better labour market prospects than those who have completed an uncertified apprenticeship (Kammermann et al., 2011). This shows that within an apprenticeship system in Switzerland that is chosen by many of the brightest, it remains possible to include effective options for those who struggle. This might be a model for the development of apprenticeship in Israel (see also Kis, 2016).

Policy argument 4. Apprenticeships for young people need to be better connected with other parts of the upper-secondary education and training system

Apprenticeships are now better integrated with other parts of the education and training system in Israel

Apprentices who complete their studies but do not pass all their exams, are now entitled to a 12-year school completion diploma, bringing their treatment into line with other students in the Ministry of Education system. The diploma is required to enter post-secondary programmes and is recognised on the labour market (Ben Rabi et al., forthcoming). Israel should now build on this positive step by offering apprentices a fuller opportunity of passing matriculation exams, a key means of attracting more able students, who commonly will aspire to further and higher education. Currently, only 3% of apprentices take a partial matriculation exam (Ben Rabi et al., forthcoming). Interviews conducted during the review visits suggest that most apprentices are not academically prepared to succeed at it. Also, apprentices do not receive “protective score” from the MoE when taking the matriculation exams, so that the final grade is determined only by the external exam, and not based on the previous achievement and school evaluation, which is the case for the students in the Ministry of Education.

Stronger pathways from upper-secondary VET to post-secondary education are vital

Creating workable pathways between upper-secondary VET and post-secondary options would improve the image of VET and provide a quality option for those who are less academically oriented. This would, as discussed in Chapter 4, include diversification of post-secondary non-university programmes in sectors such as health, childcare, services, that would allow technological and apprenticeship graduates to continue to higher levels of education.
Policy argument 5. Programmes for adults could help to address skills shortages but currently they reach too few individuals

WBL programmes for adults could play a key role in integrating disadvantaged social groups

WBL programmes for adults, offering both occupation-specific skills and basic (generic) competences, could help to alleviate skills shortages. These programmes should focus on activating adults who are outside the labour force, upskilling those who are in low-skilled employment and re-training those in occupations where employment is expected to shrink. Such measures might also be applied, in targeted ways, to engage the social groups that currently have low rates of economic activity – particularly Haredi men and Arab women.

Adults face several barriers to participation

Ben Rabi et al. (forthcoming) argue that attracting candidates to the programmes for adults is a major challenge, particularly in scaling up these initiatives. Thus:

- The cost of participation is often a barrier. While in Israel, many programmes are provided at no cost to individuals, participants incur opportunity costs - what they would earn had he/she not been in training. The opportunity cost is particularly high in the Class in the Workplace programme, as participants do not receive any wage during the programme. In the Starter programme participants should be paid at least the minimum wage, but the wage payment only begins in the second stage of the programmes and does not cover the off-the-job part. However, participants in these programmes can receive subsidies which diminish the opportunity cost.

- For older adults the returns from education and training are lower than for younger people, because older people have less time left on the labour market in which to recoup their investment in training through higher wages.

- Evidence from other countries shows that particularly adults with lower education and lower basic skills, are sometimes not motivated to take part in training (Mühlemann, 2017).

- Finally, (Ben Rabi et al., forthcoming) argues that the low status of VET overall contributes to low adult participation in programmes for adults.

Many countries have measures supporting adult apprentices

Apprenticeship in Germany and Switzerland has traditionally been focused on young people. But in recent years both countries have begun to encourage adult learners to pursue apprenticeships, with financial incentives and other support measures (see Box 2.2). In Israel, there are some financial incentives for adults who wish to upskill, including subsidies that compensate for lost earnings. In Class in the Workplace, participants are eligible for a subsidy of NIK 1 500 and a grant upon passing mid-term and final examinations. Starter participants receive NIK 1 500 in the first stage of programmes provided in a college (see Table 2.2). The subsidy amounts to only around one-third of the minimum wage, so for many the opportunity cost of participating in training may still be too high. Some other measures in Israel are designed to help participants to complete the programmes. They include an initial screening of candidates, monitoring participants performance during the course, and the introduction of soft-skills workshops at the beginning of the course (Ben Rabi et al., forthcoming).
Box 2.2. Incentive measures for adult apprentices

**Germany** has been promoting apprenticeship among young adults (aged 25-35) in response to skills shortages and insufficient young apprentices in some sectors. In Germany individuals may receive financial support for education expenses, travel, child care, tutoring, and subsistence during the training. To encourage completion, apprentices receive a grant upon passing mid-term and final examinations. The role of these incentives in the observed increase in the proportion of apprentices over 23 (from 3% in 1993 to 12% now) is unclear.

In **Switzerland** initiatives supporting the development of adult apprenticeships are more recent (evidence). In 2016 around 8% of apprentices were older than 24. In Switzerland, adult apprentices earn around two-thirds of the unskilled worker wage, compared to one-fifth for younger apprentices. All individuals under 35 can apply for a scholarship of a maximum CHF 12 000 per year (equivalent to two and half median monthly wage of an unskilled worker). Under some circumstance they can also apply for social assistance. Additional financial assistance is available to those who are unemployed.

In **Canada**, unlike Germany and Switzerland apprenticeship has traditionally been for adults. In Canada apprentices can receive up to CAD 4 000 during apprenticeship programme. The apprentice wage starts at around 50% of the skilled worker wage, which is higher than in Switzerland and Germany. A low completion rate is a challenge in Canada with less than half of all apprentices completing the programme within 11 years. The high drop-out rate may be related to the fact that apprenticeships last five years, increasing the difficulty of sustained engagement.

*Source: Mühlemann, S. (forthcoming), Apprenticeship Training for Adults.*
References


Ministry of Finance (forthcoming), The Chief Economist Weekly Review.


Mühlemann S. (forthcoming), Apprenticeship Training for Adults.


