Less vocationally trained in future

Over the past decades, the Danish level of education has risen significantly, especially because more people have completed further education. In the next 30 years, the proportion of the workforce with a further education will continue rising. In contrast, the proportion of the workforce with a vocational education will decrease by 200,000 corresponding to 20 per cent, cf. figure 1.

In addition, a large proportion of the workforce will still be unskilled in 30 years. From 1993 till today, the proportion of the workforce without a qualifying education has been reduced by 20 percentage points. During the next 30 years, the proportion will be lowered further by only 4 percentage points.

In 2040, 18 per cent will be unskilled, having elementary school as the highest level of education. A further 10 per cent of the workforce will have an education of upper secondary level only. In other
words, three in ten will have no qualifying education in 2040. Cf. figure 2.

**Figure 2**

<table>
<thead>
<tr>
<th>Proportion of workforce 16 years-old and older, per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary school</td>
</tr>
<tr>
<td>Upper secondary school</td>
</tr>
<tr>
<td>Vocational education</td>
</tr>
<tr>
<td>Further education</td>
</tr>
</tbody>
</table>

Source: DREAM (2008) and own calculations.
The core of workforce disappearing

In 10 years, educated office clerks will be reduced with 34,000, social and healthcare education with 18,000, and there will be 16,000 mechanics and carpenters less than today. This is a challenge for the Danish labour market. Today, 38 per cent of the employees in the private labour market are vocationally trained. In the public sector, the proportion of vocationally trained is the second largest, cf. figure 3.

Figure 3

Key resource in the private sector

Proportion employed, per cent, 2008
- Elementary school
- Upper secondary school
- Vocational education
- Further education

Public sector
Private labour market

0 20 40 60 80 100
0 20 40 60 80 100

Source: Special report from Statistics Denmark (RAS) and own calculations.
The challenge starts in elementary school
Almost 15 per cent of all students starting a vocational education have inadequate professional qualifications in reading and mathematics, and barely 25 per cent has the adequate qualifications in science, cf. figure 4.

In comparison, less than two per cent of all students starting an education at upper secondary level have inadequate professional qualifications in reading, mathematics and science.
One explanation may be the free admission to vocational education for all young people who have completed nine years of elementary school. In contrast, students who are not evaluated as qualified for upper secondary education must sit through an admission test.
High level of drop-out during basic training

Every year, 55-60,000 persons start a vocational training. But only half of them complete the education. The largest drop-out occurs during the basic training, before the education has started in earnest, cf. figure 5, nearly one in three students in vocational education drops out.

Figure 5

![Bar chart showing drop-out during basic training and main course.]

During the main course, the level of drop-out is the same or lower than in other educational sectors.

Grades from elementary school are essential

Half of the students with a grade average below six drop out of vocational training during the basic course. The drop-out rate decreases as the grade average rises, but increases when the average exceeds 8.5 cf. figure 6.
The vocational schools have trouble retaining both less- and highly qualified students. This may be due to the wide appeal caused by the free admittance. Weak requirements will result in highly qualified students losing interest and consequent drop out. Furthermore, surveys show that vocational training has low status among many young people.

**Lower drop-out will result in more vocationally trained persons**

The road to more people being vocationally educated is a lower drop-out rate. But for this to happen, young people starting a vocational training must have better qualifications from elementary school, cf. figure 7.

<table>
<thead>
<tr>
<th>Grades determine drop-out</th>
<th>Drop-out at the end of 2008 for 2007 intake, per cent.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 6</td>
<td></td>
</tr>
<tr>
<td>6-6,5</td>
<td></td>
</tr>
<tr>
<td>6,5-7</td>
<td></td>
</tr>
<tr>
<td>7-7,5</td>
<td></td>
</tr>
<tr>
<td>7,5-8</td>
<td></td>
</tr>
<tr>
<td>8-8,5</td>
<td></td>
</tr>
<tr>
<td>8,5-9</td>
<td></td>
</tr>
<tr>
<td>Over 9</td>
<td></td>
</tr>
</tbody>
</table>

Note: Brief description of the Danish Grade Scale of 00 to 13: The student's performance is placed within the following four groups of marks: excellent (13, 11, 10), average (9, 8, 7), just acceptable (6), hesitant and failed (5, 3, 00)

Source: Special report from Statistics Denmark (Student's Register) and own calculations
The effect of higher completion will lead to a complete workforce increase by 36,000 persons by 2040. The positive effect for the complete workforce is due to the vocationally trained persons having higher labour market participation rate than persons with elementary school as highest level of education.

**Far from the objective of 95 per cent**

The governmental objective concerning education policy is for 95 per cent of the year group who complete elementary school in 2015 to have completed at least one youth education, upper secondary education or vocational training, in 2040. The governmental objective will not be achieved with the present development. If the high drop-out rate in vocational training continues, only 83 per cent of the year group from 2015 will have completed a youth education in 2040. A drop-out rate in vocational education similar to the drop-out rate in upper secondary education will contribute to further 9 percentage point having completed at least one youth education in 2040, cf. figure 8.
Not even a marked change in the drop-out rate in vocational education will help realize the 95 per cent objective.
To realize the 95 per cent objective, the drop-out in all youth education must be reduced by 84 per cent. For students at vocational schools, the drop-out must decrease from 50 per cent to 8 per cent.
Persons searching for apprenticeships

The vocational education is an alternating training where two thirds of the main course is on-the-job training in a company or at school. The number of new apprenticeships differ over time and recently topped in 2007 where 37,000 new apprenticeships were agreed, cf. figure 9.

![Figure 9](image-url)

**Figure 9**

Large variation in apprenticeships over time

The economic decline affects the number of apprenticeships. In 2004 and 2005, 10 – 13,000 students were seeking apprenticeships. After years of decrease, the number has increased again. In June 2009, the number was close to 6,400 persons - equivalent to the level in June 2006, cf. figure 10.
**Persons seeking apprenticeship are less mobile**

Young people are able to improve their chances of getting an apprenticeship through active search and through being geographically and professionally mobile.

According to a questionnaire survey among persons seeking apprenticeship, only half had applied for an apprenticeship within the last month, cf. figure 11.

**Figure 11**

**Many students are not seeking for an apprenticeships actively**

80 percent only applied for an apprenticeship in one training area. Every fourth would only apply for an apprenticeship within a radius of 10 km from their address only. Similarly, half the respondents were not willing to move in order to obtain an apprenticeship.

**Apprenticeships in the private labour market**

In 2007, the private labour market educated 83 per cent of all vocationally trained persons, but only employed 77 per cent. Thus, the private labour market educates the labour of the public sector, cf. figure 12.

![Apprenticeships in the organised private labour market](image)

**Figur 12**

In 2007, every second company in the organised private labour market had at least one apprentice, cf. figure 13.
Only 12 per cent of other companies in the private labour market have had apprentices in that period.

**Vocationally trained persons performing well**

When students have completed their vocational training, they have good opportunities on the labour market.

The unemployment rate is lower for vocationally trained persons than for persons without a qualifying education. At the same time, they are among the fastest to get back in employment after lay-off, cf. figure 14.
### Good career prospects

10 per cent of the vocationally trained persons complete a further education afterwards, cf. table 1.

<table>
<thead>
<tr>
<th>Table 1</th>
<th>Vocationally trained with further education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vocational trained in the population, 16-24 year-old</td>
<td>1,000 persons</td>
</tr>
<tr>
<td>Vocational training as highest level of education</td>
<td>1,108</td>
</tr>
<tr>
<td>Further education as highest level of education</td>
<td>118</td>
</tr>
<tr>
<td>Total of persons with a vocational education</td>
<td>1,226</td>
</tr>
</tbody>
</table>

Source: Special report from Statistics Denmark and own calculations.
This corresponds to one fifth of all persons with a further education having a vocational education. Among persons with a short-term further education, four in ten have a vocational education, cf. figure 15.

![Figure 15](image_url)

Many vocationally trained leave their profession to have a business of their own. Out of nearly one million vocationally trained persons, almost seven per cent are self-employed, cf. figure 16.
Many become self-employed

The proportion of self-employed is low for employment groups concentrated on the public sector, e.g. vocationally trained within health and pedagogy and persons with a short-term further education.

Immigrants in vocational training
Among the 30,000 persons who completed a vocational education in 2006, nearly nine per cent had a non-western background. Persons with a non-western background often choose a mercantile vocational training or an education within service, cf. figure 17.

![Figure 17](image)

Among persons with Danish origin who completed a vocational training in 2006, 91 per cent were employed the following year. For newly educated persons with a non-western origin, the number was 83 per cent, cf. figure 18.
The proportion of employment for vocationally educated people at medium high or high level and skilled or low-skilled is the same whether it is Danish or non-western origin, cf. figure 19.