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Redaction summaries: Karel Visser

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1. Introduction

This research report discusses four themes in the area of vocational education and training (VET): (1) benefits of VET, (2) migrants in VET, (3) workplace learning and (4) competence-oriented learning. Each chapter is an entity in itself and presents the results of mainly Dutch research in these areas; the first theme forms an exception in that it also discusses a great deal of non-Dutch research. The chapters are summaries of Dutch review studies on these themes. In addition, there are (review) studies written in English – by Dutch scientists – which also discuss the Dutch situation in detail with respect to some of these subjects. We will not discuss these – at least not extensively – because the results of these studies are already available to an international audience. Also, it would result in the scope of this report greatly overstepping any reasonable desire for succinctness.

Benefits of VET

In this chapter on the benefits of VET, we zoom in on the question of whether the market of enterprise-related training is effective. It is a summary of a Dutch review study that was conducted at the request of ecbo, the Centre for Expertise in Vocational Education and Training, by economists Groot & Maassen van den Brink (2009). In addition, we would like to refer to a new book about human capital edited by economists Hartog & Maassen van den Brink (2007). The book contains thirteen articles about various facets of human capital theory, policy and practice. All contributions were written by economists who have won their spurs in the Netherlands, so that it also focuses extensively on research done in the Netherlands.

Migrants in VET

OECD recently published a report about migrants in Dutch education (2009). This study chiefly discusses primary and general secondary education, making only scant mention of upper secondary vocational education. This was a good reason for ecbo to draw up a review study on migrants in VET. That report – written by Van Esch et al.(2009) – was based on a limited number of empirical studies and will be summarised here.

Workplace Learning (WPL)

Since WPL is such a broad theme, we will confine ourselves by zooming in on this phenomenon in upper secondary vocational education. A good review study has already been written in English, the result of a Dutch research project (running from 2002-2008) about the learning potential in the workplace. The reader contains eighteen articles about WPL in VET and as a part of HRD, edited by Dutch professors of education Nijhof & Nieuwenhuis (2008). Most of the articles were written by Dutch scientists, so that Dutch research is discussed extensively. We would like to refer to this book, given the availability of this information to an interested audience abroad. In upper secondary vocational education, workplace learning has an important position in the Netherlands in the two equivalent learning pathways: the school-based pathway (with internships) and the dual pathway. With respect to knowledge transfer to a greater public, ecbo commissioned an overview study in 2009 of the results of research into WPL in upper secondary vocational education. This study by Poortman & Visser (2009) will be summarised in this report.

Competence-based/-oriented Learning

In upper secondary vocational education, a new competence-based qualification structure will come into effect in 2010 pursuant to a political agreement to introduce competence-oriented learning. A

review study published by ecbo and written by Van den Berg & De Bruijn (2009) contains an overview of the ways in which the sometimes rather diffuse facets of this concept can be made operational. The sources for this study are 75 mostly Dutch studies containing formal knowledge, a great number of practice documents, and general background information. The summary presented here concerns the formal knowledge sources.

2. Does the market of enterprise-related training work?

2.1. Introduction

'At a time when governments and policy-makers put so much emphasis on the "knowledge economy" and the value of education, human capital theory has never been more important. However, research in this area is often very technical and therefore not easily accessible to those who wish to use it as a guide to policy formation'.

This statement – found on the inner cover of the book *Human Capital* (2007; Cf Chapter 1) edited by Hartog and Maassen van den Brink – introduces three important themes that the authors wish to make available to a wider audience. Their book can be considered an interface between research results and possible applications in policy formulated by the government, education and the business community. The three themes comprise: measuring the benefits of human capital, applying the human capital model and policy interventions.

The scope of these themes is very broad. As a Cedefop-ReferNet partner, we have decided to limit ourselves to and concentrate on the question of whether the CVET market – in the shape of enterprise-related training – works. For this purpose we will summarise the Dutch review study *Does the market of enterprise-related training work?* (Groot & Maassen van den Brink; 2009), published by ecbo (VET Expertise Centre) (see also Chapter 1: Introduction).

For many people it is self-evident that education belongs in the public sector. This can make us less aware of the fact that it can also simply be considered an economical sector, especially in the post-initial circuit. In other words, it is a market that operates on the principle of supply and demand. One of the most important policy questions is whether this market works efficiently. If that is the case, there is really no reason for the government to intervene. Economists look at this question by determining (or aiming to do so) the return on education. They see education and training as an investment of which the cost should be recovered: through an increase in work productivity and higher incomes.

2.2 CVET participation in the Netherlands

In 2005, a little over one third (34%) of Dutch employees participated in a company training scheme. That amounts to over 1.3 million employees. The cost of all of these training schemes amounted to a total of 3.1 billion euros, or 0.6% of the GDP. Participation in all these training schemes was considerably lower than in 1999, when 41% of employees took part in a training scheme. Not only did the total number of hours spent on training decrease (from 75 million hours to 47 million hours), but also the average length of training schemes (from 48 to 36 hours). Training schemes themselves became considerably more expensive: the training cost per hour in 1999 was 41 euros versus 66 euros in 2005.

Productivity increased by 3.1% in 1999 and 2000. In 2005 and 2006, the increase was 2.7% and 2.0% respectively. This seems to indicate that less training resulted in less growth in productivity. However, that conclusion is premature, because productivity increase is determined by more factors than training alone. The figures simply indicate that there was less training, not whether there was too much or too little of it. The height of the return is at most an indication of whether too much or too little is being invested. If the return is low, or even negative, this would constitute

overinvestment; if the return is high, there are underused profit opportunities, which would hence constitute underinvestment. In an effectively operating market, under- or overinvestment situations are easily corrected. If not, then the market is failing. An important argument in favour of training employees is that it increases productivity. In the next paragraph we will consider whether there is sufficient proof for this proposition.

2.3 The return of enterprise-related training

Do training efforts lead to increased productivity, and if so, are there indications for underinvestment or for failure of the market in enterprise-related training? In many studies, remuneration is additionally used as a value – a proxy – representing the productivity effect of training. The reason for doing so is that the economic theory of perfect competition predicts that the value of the price (wage) equals the value of the marginal revenue product. Both variables can then be used as an effect measure for the return on training.

Groot & Maassen van den Brink (2009) present an overview of 21 studies (conducted in the Netherlands and other countries) that address productivity effects and/or remuneration effects of enterprise-related training. These studies were published in the years 1998-2008 and they are listed in a table in the appendix to this chapter. The table presents the main characteristics of the studies: author(s) – data used – definition of training – effect measure – results. Training schemes can differ in their nature and scope, and also, the studies refer to different reference periods in which training was received. These studies highlight the following tendencies:

- a. At first glance, the table shows considerable differences between the findings of the studies. Some people feel that the return – the additional value per employee (productivity) – of enterprise-related training is nil (for instance Leuven & Oosterbeek, 2004), others feel that the return is great. Nevertheless, Groot and Maassen van den Brink (2009) note that the conformity between the results is greater than would appear at first glance.
- b. Eight studies have researched the effect of enterprise-related training on productivity figures. All studies find evidence for a positive correlation, though there are differences in the magnitude of the effect: a ten per cent increase in enterprise-related training leads to a productivity increase that varies from 0.7% to 73%. Zwick (2005) finds that (1) formal external courses are very effective and (2) the effect of internal courses is smaller and (3) on-the-job training has a negative effect.
- c. The majority of the studies review the remuneration effect of enterprise-related training. These studies can be divided into two groups:
 - Six studies deal with the remuneration differences between employees who did and employees who did not take part in training schemes. All these studies find a positive correlation. The scope of the remuneration difference is considerable: it varies between 3.3% (Booth, Francesconi & Zoega, 2003) and 15.7% (Regnér, 2002).
 - Ten studies calculate the wage increase for employees who attended training. In general, positive effects were found, but their scope is considerably smaller than that of the studies that deal with remuneration differences between participants and non-participants in training schemes.
- d. Three studies (Dearden, Reed & Van Reenen, 2006; Ballot, Fakhfakh & Taymaz, 2006; Conti, 2005) examine effects on productivity growth as well as on salary growth. All three find that the

effect of enterprise-related training on salary growth is 30-80% lower than the effect on productivity growth.

Groot and Maassen van den Brink give four explanations of the differences found:

(1) Different studies use different effect measures. Theory predicts that the costs and benefits of enterprise-related training are shared by employers and employees. If both parties share the benefits of the training, one would expect productivity growth to be higher than salary increase. The studies confirm this.

(2) Outcomes are distorted because of a selection bias.

Outcomes of comparisons between employees who have and who have not participated in training are distorted by a selection bias: employees for whom the benefits of training are higher than average (for instance highly trained staff and those with the best chances of promotion) are more likely to participate in training. The effect of training for employees who have received training therefore cannot be used to predict the benefit for employees who have not (yet) had training. In addition, there are non-observed characteristics that influence productivity as well as participation in training, such as, for instance, motivation.

(3) The nature and scope of training differs between studies.

(4) The extent to which training is made productive differs between countries.

Competition, working fulltime and not changing jobs after receiving training are all conducive to using knowledge. In countries where there is less competition and less of a free market, where more employees work part-time and mobility of labour is greater, the return of enterprise-related training can be expected to be lower.

2.4 Possible causes of underinvestment

Market failure can lead to overinvestment as well as underinvestment in training schemes. In view of the fact that the return on enterprise-related training is often high, underinvestment seems to be a greater problem than overinvestment, though it is possible that training is provided too infrequently at times and too often at other times.

Ok and Tergeist (2003) differentiate between four types of market failure: capital market imperfections, labour market imperfections, training market imperfections and coordination problems. Groot and Maassen van den Brink (2009) use a slightly different classification, which is related primarily to employers' motives whether or not to train their employees and secondarily to the structure of and institutions in the Dutch labour market. They name six possible causes.

Changing jobs

One reason why employers invest less in training than would be optimal is that they expect an employee's contract to be terminated, either by the employer or the employee. This concerns employees with temporary contracts in particular. Elias and Davies (2004) draw the following conclusions in their review study of the determinants of enterprise-related training: employees with permanent contracts take part more often than those with temporary contracts, highly trained employees more than those with fewer qualifications, native Dutch employees more than employees from ethnic groups, labour union members more than non-members, workers in the

(semi) public sector more often than employees in private enterprises, and employees in large companies more often than employees in smaller companies. However, these participation differences do not form proof of underinvestment; other plausible explanations for non-participation are: less need/demand for training, learning difficulties, estimated low return on investment. Employers name external recruitment of trained employees by competitors as one of the main reasons why they do not invest, or invest less, in training (Stevens, 1999); in the literature, this practice is called 'poaching'.

Restrictions in time and money

Restrictions in time and money ensue as a result of labour market and capital market imperfections. Labour market imperfections (for instance substitution problems) are one of the main reasons why employers invest less in training; capital market imperfections are a huge obstacle for employees. For both imperfections, a differentiation must be made between larger and smaller enterprises. Large enterprises can more easily solve substitution problems and have sufficient means to deal with the credit restrictions their employees are facing. Time restrictions are also dependent on scarcity in the labour market. That leads to the paradoxical situation that when the labour market is tight, the necessity to enhance qualifications and competence is greater, while possibilities to realise this are smaller.

Value of training is uncertain

There is a lack of certainty about whether acquired skills can be made productive; besides, these skills may become outmoded or no longer useful over time. This underinvestment problem is exacerbated when employees and employers are not aware of long-term benefits.

Value of training is not generally known

The employee knows more about that value than the current employer, who, in turn, is better informed about the worth of the training than other employers. This makes investment in training less profitable. The absence of recognised diplomas or certificates exacerbate this problem of incomplete, asymmetrical information.

Market-disruptive regulation

This can be the influence of the tax system, the legal minimum wage and the role of regulations concerning employment protection. Those last two forms of regulations can lead to certain groups of employees – for instance those with temporary contracts – receiving less than optimal training, and certain groups more than optimal. Market-disruptive regulation can cause both underinvestment and overinvestment.

The role of collective labour agreements

In the Dutch system, collective labour agreements (CAO) are a means for labour unions to influence investments in training. While the unions have no direct influence on participation in training, they do indirectly by means of collective labour agreements: agreements about training; influence of employee organisations and unions on Training and Development funds. Collective labour agreements can curtail labour mobility and may also decrease the wage differences in a branch or sector. Both effects stimulate participation in training. Giving them a different job is a means to reward trained employees for their increased productivity. In this way, training forms a means of selection as well as a screening device.

2.5 Training Policy

Market failure is a reason for government intervention or collective action. The influence of collective labour agreements was explained briefly in paragraph 2.4. Here, we will discuss a few measures that directly serve to increase training efforts: government measures and agreements between employers and employees in the *Training and Development funds*. The core question: what works, what doesn't work, and what factors are there whose effect we cannot gauge?

Training allowance for employers

Up to a few years ago, employers were able to deduct training costs for employees aged forty and over from tax. Leuven & Oosterbeek (2004) concluded that these deductions did not have a significant effect on the training opportunities for "older" employees. All they found was a delayed effect: putting off training until employees were old enough for employers to be eligible for the tax deduction measure.

Training deductions for employees

Tax laws have a provision for deducting study costs and other expenditure for training. Berkhout, Leuven & Oosterbeek (2005) conclude that this fiscal deduction possibility is effective. Their analyses indicate that if the deduction rate is increased by ten percentage points, the chance that people incur training costs and deduct them from tax increases from 0.14 to 0.62 percentage points. However, this tax measure is not used much: by a little over two per cent of the working population.

Training vouchers: individual learning accounts

As from 2001, experiments were conducted with individual learning accounts. Under this system, specific groups of employees – those with few qualifications and older employees – can spend a thousand euros on training, which is financed by the government and by *Training and Development Funds*.

A disadvantage of vouchers is that each employee has the same right to training vouchers or to an accumulation of learning rights, even though each employee has different training requirements. Little is known about the effectiveness of individual learning accounts. In a limited evaluation study no effects were found (Renkema dissertation, 2006).

Training & Development Funds

In the majority of Dutch business sectors, there are sector funds, or *Training and Development Funds*, currently some 140, which together cover 85% of the employees. Companies pay 1% to 2% of their annual salary bill into the sector fund. Participation in a sector fund is often regulated in collective labour agreements, and therefore mandatory.

The purpose of most of the *Training and Development Funds* is to balance training costs between employers in a given sector, although many of these funds have considerably broadened their activities lately. Waterreus (2004) investigated whether these funds are an effective way of stimulating training among employees. Large companies appear to benefit more from these funds than small companies. Donker van Heel et al (2008) draw the conclusion that sector funds have only a limited effect on effectiveness and efficiency. Groot and Maassen van den Brink infer from this latter study that we cannot, therefore, determine at present whether sector funds generate positive outcomes or not.

Annex

Table 1: Studies into returns on enterprise-related training

| Study | Data | Definition of training | Effect measure | Effect measured |
|------------------------------------|--|--|--|---|
| Budria & Pereira (2007). | Portuguese Labour Force Survey: 1998-2000 N = 27,161. | Ever participated in training? | Wages: difference between receiving training or not. | Wage difference: for men: 12.7%; for women 8.4%. |
| Arulampalam, Booth & Bryan (2006). | Data from 10 EU countries: household panel | Received training in the past year? | Wages: difference between receiving training or not. | Statistically significant differences in ten countries (1-9%); no difference in three countries (including the Netherlands). |
| Dearden, Reed & Van Reenen (2006). | Panel of British industrial companies 1983-1996. N = 968. | Received training in past four weeks? | Wages and added value per employee. Effect of training for participants in training. | 1% increase in training leads to an increase in added value per employee (0.6%) and an increase in their wages (0.3%). |
| Ballot, Fakhfakh & Taymaz (2006). | Panel of French (1981-1993; N = 527) and Swedish (1987-1993; N = 987) companies. | Total quantity of training in company. | Wages and added value per employee. Effect of training for participants in training. | 1% increase in training leads to an increase in added value (France: 17.3%; Sweden: 7.3%) and increase in wages (France: 13.1%; Sweden: 6.1%). |
| Zwick (2006). | Panel of German companies 1997-2001. N = 2,090. | Quantity of training in first six months of 1997. | Changes in added value 1998-2001. Effect of training for participants in training. | 1 percentage point increase in training leads to 0.15 percentage point productivity growth; for participants in training, it leads to 0.7 percentage points of productivity growth. |
| Zwick (2005). | Panel of German companies 1997-2001. N = 2,484. | Amount of in-house training and external training, first 6 months of 1997. | Changes in added value 1998-2001. Effect of training for participants in training. | Formal external courses increase productivity by 28%. In-house courses have a smaller effect. The |

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|------------------------------------|---|--|--|--|
| | | | | effect of on-the-job training is negative. |
| Frazis & Loewenstein (2005). | National Longitudinal Survey of Youth 1979-2000. N = 75,698. | Received training in order to find a job, enhance skills or learn a new occupation? Reference period: since previous interview. | Wage growth. Effect of training for participants in training. | Wage effect: 1.4 – 5.3%. |
| Booth & Bryan (2005). | British Household Panel Survey 1998-2000. N = 7,167. | Training at current and previous employers. | Wage growth. Effect of training for participants in training. | Training at previous employer: 7.8% wage increase; at current employer: 2.4%. Courses with certification show a significant effect; courses without certification do not. |
| Conti (2005). | Italian worker count and survey among companies 1996-1999. N = 866 | Received training in the month before the interview? | Wages and productivity. Difference in wages between receiving training or not. | 1% increase in number of participants leads to 0.4% productivity growth and 0.1% increase in wages. |
| Leuven & Oosterbeek (2004). | Telephone survey of Dutch employees 1999. N = 1,627. | Received training in past year? | Wages. Quasi-experiment between employees younger/older than 40; measuring effect of tax deduction measure. | Training does not significantly affect wages. |
| Schone (2004). | Norwegian survey of organisations and employees 1989-1993. N = 2,557. | Received in-company training in the past twelve months. | Wages. Difference in remuneration between participants and non-participants in training. | Wage effect: 5%. |
| Booth, Francesconi & Zoega (2003). | British Household Panel Survey 1991-1996. N = 5,700. | Training programmes that are part of their current job. | Wages (increase). Difference in remuneration between participants and non-participants. Effect on wage growth for training participants. | Remuneration difference between participants and non-participants: 3.3%; for union members: 6.4% and for non-union members, no effect. Wage growth for participating union members: 3.1%; participating non-union members: no training effect. |

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|--------------------------------|---|--|--|--|
| Regnér (2002). | 1991 Swedish life circumstances survey. N = 2,636. | Short, medium and long training. | Wages: difference between participants and non-participants in training. | Remuneration difference between participants in extensive training courses compared to non-participants, 15.7%. |
| Arulampalam & Booth (2001). | Young peoples' cohorts born in 1959, 1981-1991. | Number of training courses with a duration of at least three days. | Wage growth. Effect of training for participants in the training course. | Wage growth between 1981-1991 as a result of participation in training 32%. |
| Pischke (2001). | Western-German Socio-economic Panel 1986-1989. N = 3,413. | Participation/ duration of training courses in the past three years. | Wages. Effect of training course for participants. | Wage effect of one-year company training scheme is 2.6% (not statistically significant). Wage effect of participation in training course: 1.2% (significant). Wage effect of training during free time is 4.3% (significant). For training during working hours: 0.1% (not significant). |
| Barrett & O'Connell (2001). | Panel of companies in Ireland 1993-1997. N = 215. | Number of training days in 1993. | Changes in production per employee between 1993 and 1997. Productivity difference participants and non-participants of training. | Company-specific training has no effect on productivity; general education does have an effect. |
| Goux & Maurin (2000). | French survey on education and qualifications 1988-1993. N = 4,333. | Participation in training between 1988 and 1993. | Wages. Difference in wages between participants and non-participants in training. | Wage difference is 6.6%. If self-selection in training and labour mobility is taken into account, the training has no wage effect. |
| Loewenstein & Spletzer (1999). | National Longitudinal Survey of Youth. N = 9,362. | Number of training periods in previous and current jobs. | Wages. Difference in wages between participants and non-participants in the training. | Wage difference: 4.4% for training with current employer; 6.2% for training with previous employer. |
| Groot (1999). | Survey among companies in the | Participation in company training | Subjective estimate by superior of wage | Average productivity growth |

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|-------------------------------|--|---|---|--|
| | Netherlands, 1992. N = 479. | schemes. | and productivity growth through training; difference in productivity participants and non-participants in the training. | through training is 16%; average difference in productivity between participants and non-participants is 8%. Average wage growth through training is 3.3%. |
| Boon & Van der Eijken (1998). | Data from companies in CBS surveys - the Netherlands, 1990 and 1993. N = 173. | Training expenditure. | Turnover and added value. Effect of training for companies that train. | No return on training in turnover; return in added value is 25%. |
| Krueger & Rouse (1998). | Data from manufacturing companies (N = 642) and service companies (N = 239) 1992-1994. | Participation in a course at the community college. | Wage growth. Effect of training on participants in training course. | Participation in training leads to 0.5% wage growth in manufacturing industry and to 1.9% wage growth in service company. |

Source: Groot and Maassen van den Brink (2009). *Does the market of enterprise-related training work?* pp. 40-43.

3 Migrants in upper secondary education

3.1 Introduction

The subject of this chapter is the position of migrants in upper secondary education. The concept "migrant" can be used in an inclusive or exclusive fashion. We will use the designation "migrant" for fellow Dutch people who themselves, or one of whose parents is from a country other than the Netherlands. The chapter is a summary of the review study by Van Esch et al.(2009); for the reference, see chapter 1: "Introduction".

3.2 Systems perspective

On 1 January 2008, nearly 5 million children and youngsters under 25 lived in the Netherlands. One million of them were of migrant origin. Of these migrant youngsters, one quarter was born in a foreign country. These youngsters are part of the first generation of migrants; three quarters of this group, therefore, can be classified as second generation. Of the migrant youngsters, 70% is of a non-Western origin, the largest ethnic groups being Turkish and Moroccan. Non-Western migrants mostly live in the four largest cities.

If we study participation of youngsters between 12 and 25 years old, native Dutch are shown to participate more in education than migrants, and women more than men.

Tracking is an important approach within the systems perspective. Tracking has to do with the organisation of education (stratification or differentiation). An important organisational feature is the moment at which students must make a choice between a vocational and a general education stream. There is a growing body of evidence that in systems with early tracking – such as the Netherlands – the educational achievements are lower than in countries with late tracking. It is a well-known fact that family background (educational level of parents) influences education achievements. Irrespective of the tracking method, students with less-educated parents have lower achievements than those with better educated parents. As minority parents are often less well educated, early tracking is more of a problem in their case. A study (Crul et al., 2009) of the consequences for the second generation of Turkish people in seven countries found that in countries with a solid tracking system (Germany, Switzerland, Austria), Turkish people move on to tertiary education at a much lower rate than countries that have no, or little tracking (Sweden, France). Countries such as the Netherlands and Belgium show intermediate figures.

Another study compared the school careers of children born of Turkish migrants in Germany with those in the Netherlands (Crul & Schneider, 2008). The Turkish community in both countries is roughly comparable, as are the educational levels and the social backgrounds of the parents. Based on the indicators "education results" and "early school leaving", Germany appears to have fewer early school leavers, while there are more children of Turkish origin in higher education in the Netherlands. The reason for lower dropout rates in Germany is that students finish their schooling at an earlier age. By the time early school leaving becomes a factor, Turkish-German students already have a diploma, and are in dual training systems where part-time schooling is combined with work. If they leave a dual training system, this is not considered early school leaving. The lower school results are due to the fact that school days are considerably shorter for German students than for Dutch students.

Upper secondary vocational education in the Netherlands requires a number of choices, such as the choice of a sector, a learning pathway, and placement at a level. The question is whether minority students choose differently from native Dutch students. Early school leaving is also an important participation indicator. Non-Western migrants make different sector choices than native Dutch students. They choose economics as main subject area relatively more often. Over half of the non-Western migrant boys opt for economics whereas for native Dutch that is 30%. Therefore, non-Western migrants are less likely to choose technology or health, personal care and welfare pathways. Also, men with a non-Western background opt more for technical training while health, personal care and welfare is mostly a women's choice. Non-Western migrants in senior secondary vocational education more often follow lower forms of education than Western migrants and native Dutch. Dual education is also less popular in this group. Of non-Western migrants, nearly 20% participate in dual education, whereas Western migrants and native Dutch make up about one-third (CBS, 2008).

Early school leaving is an important indicator for participation. Early school leaving among non-Western migrants is twice as high as among native Dutch. Not surprisingly, early school leaving occurs more in the larger cities and areas where poverty is rife. Factors related to education are the main reasons why students break off their studies. Switching to another course is the foremost motive. These reasons have less bearing on migrant youngsters, for whom personal problems feature more often and include financial problems, health, combination with care for family, children, pregnancy, private problems or behavioural problems (ROA, 2009).

3.3 Perspective of the home environment and the direct environment

In addition to the organisation of the education system, factors in the home and the direct environment also have an effect on the differences in the educational situation between migrants and native Dutch. Their social position cannot in itself explain the more disadvantaged educational position of migrants, because in spite of a similar social position, some migrant groups do better than others. Mijs (2008) introduces the middle class mindset as an explanatory construct. Middle class parenting practices correspond better to the dominant culture in schools – subtle mechanisms are involved here. Middle class parents also have better information on how to benefit from facilities such as educational provisions. Additionally, they are more prepared to postpone immediate income for future higher revenues. There are indications that such a middle class mindset does indeed play a role, though the data sets that are available are not sufficiently refined to be able to make reliable statements about the relationship between such a mindset and educational achievements.

Research by Pels & Vollebergh shows that democratic control prevails in native-Dutch families, whereas in migrant families restrictive control is more evident. Migrant mothers attach greater importance to conformity, native Dutch mothers emphasise autonomy. However, the differences are less absolute than is often thought. While the level of support for children in both types of families is the same, the nature of the support differs. Another possible factor is the fact that the first generation migrant parents lacked the knowledge and experience to actually guide their children in areas such as education, leisure time and social relationships. Such support can sometimes even have a negative effect. There are indications that some migrant parents are more likely to discourage their children from choosing technical education than to encourage them.

In addition to values the youngsters internalise in their home environment, they also come face to face with values at school and in their peer group. A study of youngsters of Dutch, Turkish and

Moroccan descent examined to what degree they endorse certain values and to what extent values that apply at home are in line with those in their school situation and their peer group (Oosterwegel & Vollebergh, 2006). It would seem that on the whole, Moroccan youngsters have greater problems with the conflicting values in these areas. In essence, this is about a conflict between more collectivist values at home and more individualistic values elsewhere. This study did not measure the extent to which the conflicts between these different value systems, and the way in which they are dealt with, influence educational achievements.

An important success factor in the home situation and the direct environment is the support given by parents and peers. In a study among second-generation Turkish youngsters in seven European countries, the mother's support is shown to be crucial, followed by that of the father (Crul & Schneider, 2008). Differences between countries are considerable. A further interesting aspect is that this study also examined the relationship between parental support and school performance. As was to be expected, better-achieving students indicate that they received more support at home. Therefore, though parents do support their children in a general sense, that support does not translate into practical help, such as help with homework. Where homework is concerned, migrant youngsters get more support from their older brothers and sisters.

In a study among second-generation Turkish and Moroccan youngsters, data was also collected on the influence of peers on education (Crul & Heering, 2008). A native Dutch control group was used here. The control group rates the influence of peers much higher than the migrant groups do. Also, women consider that influence to be greater than men. In the same study, second-generation parents, and especially those of Moroccan origin, are more likely to monitor how much time their children spend on homework. This corresponds with the finding that Moroccan parents often have a more restrictive parenting style. Parents of the control group help with homework more often than migrant parents.

3.4 Education perspective

In the JOB Monitor (ResearchNed, 2008) and a study by Hiteq (Groeneveld & Van Steensel, 2009), data on aspects of education was collected on the basis of the perspective of participants in upper secondary vocational education. In general, the differences between migrant and native Dutch participants are small.

The most distinct differences are seen in the area of competencies. This concerns such skills as learning to cooperate, work in groups, plan and organise, work independently, communicate, work according to agreements, and learning to assess yourself and your work. In general, participants in the study are quite pleased about this, girls comparatively more so than boys and migrant girls comparatively more again. It is possible that girls, and migrant girls in particular, are more attracted to enhancing their competencies. This conclusion, added to other data on the more stable educational position of migrant girls as compared to migrant boys, feeds the assumption that migrant girls would seem to use the educational system as a place for "hidden" emancipation, as it were. Parents see education as a means of advancement and therefore they cannot protest if their daughters take them up on this and use the educational opportunities they have. In addition, school offers a relatively safe environment.

Another study by Hiteq (Groeneveld & Van Steensel, 2009) focuses more specifically on learning and information processing of participants in vocational training. Non-Western migrant participants are less inclined to try out new things, are less independent when working on assignments, and expect more instructions from their teacher. For migrants, teachers are an important source of

information, more so than for native Dutch students. Participants do not complain about attention received from the teacher, two-thirds of them are pleased with the amount they get, though migrants would prefer a little more. The majority (60%) are also satisfied with the attention of their job coach in their training firm. In general, they are happier with the supervision provided by the company during workplace training than that provided by their school. Migrants feel they are given less support, both from their school and from the company. In general, they are quite happy with their teacher's professional knowledge. They rate their job coach's professional knowledge even higher. In both cases, migrants are a little more reserved.

3.5 The perspective of choice of courses and career orientation and guidance.

Earlier, we saw that migrants are more likely to opt for studies in the economic sector and that, in comparison, they opt more often for school-based training. Additionally, migrant parents have less possibilities of guiding their children in their choice of secondary education. Moreover, we know that the main reason why participants switch courses is that the programme does not meet their expectations.

In a study (Gelderblom, 2008) comparing migrant and native Dutch participants who had chosen the technology sector with those who chose other sectors, overall about three quarters had talked to their parents about their choice; they do not discuss it with their teachers as much. Migrants talk less about their choice than native Dutch students. An additional, explanatory analysis in which background characteristics were also included showed that in addition to the student's ethnicity, the choice of whether or not to do a technical course can be explained by the student's aptitude for working with technology, the general image the student has of the industry and whether the student had already chosen sciences at primary school. Migrants choose technology less often and think that they have less aptitude for it, but at the same time, migrants who have not chosen a technical course appear to be more interested than average in technology and industry. The researchers point out that the media sometimes suggests that migrant parents have a preference for non-technological careers because of the "status" and the "blue collar" image. Further analysis shows that talking to parents about career choices even has a negative result when it comes to choosing technology. It is not inconceivable that some migrant parents actually try to prevent their children from choosing a technology course.

The JOB Monitor (2008) also contains data on choice and career guidance, obviously from the perspective of the participant in education. In general, participants in upper secondary vocational education are only moderately pleased about the guidance provided. Their freedom to choose subjects or educational activities for themselves is limited. Opinions also vary greatly as to the help received when making choices during their course, whether the opportunities of continuing their studies are explained clearly, and guidance with regard to career choice or further education and possibilities to study at your own speed.

The Hiteq Study (2009) shows that participants form an idea about a course by consulting teachers and attending information days, followed by parents, written information and friends. Migrants have less access to these resources than native Dutch students.

3.6 Perspective of workplace training and the job market

The general image is that the job market position of migrants is weaker than that of native Dutch people. Net workforce participation of migrants is lower than that of native Dutch people. In the migrant groups, those from Surinam and Netherlands Antilles origin have the highest workforce participation. The position of migrant women on the job market is weaker than that of native Dutch women. Within the group of migrant women, differences are great. Net workforce participation of women from Surinam is even higher than that of native Dutch women, and that of Moroccan and Turkish women lags far behind.

Nearly half of the non-Western migrants have more basic jobs as opposed to 30% for native Dutch people. When considering their level of training, migrant women have considerably less training than native Dutch women, but also less training than men from their own ethnic group. This is a general overview (OCW, 2009; Forum, 2009)

Within the group of migrants there is also clearly a group that is doing well in the job market: the successful migrants (De Koning et al., 2008). A study was conducted to find out what was at the root of their success. A successful migrant worker is one who has a permanent job and who earns at least EUR 1,500 a month. Success-promoting factors that were mentioned: their own role (tenacity, ambition, effort and discipline, believing in yourself, willpower and being a good student), good command of the Dutch language and the role of their parents. Employers also play a stimulating role. The researchers conclude that migrants have the same view of what constitute success factors as native Dutch workers.

Workplace training is an excellent opportunity to gain experience with future work. The JOB Monitor shows that dual participants are more pleased with their job than school-based participants are about their internships. Migrants do not differ from native Dutch students in this respect. More specifically, the role of the school in workplace learning is appreciated less by participants than the role played by the company. The connectivity of theory and practice could also be improved. The participants' main goal in their work is to learn their occupations well. Earning a lot of money is secondary, and job security is in the third place. For migrants, reaching the highest echelons and earning a lot of money is more important. Native Dutch are more interested in challenging work and job security. Migrants have slightly higher expectations than native Dutch people of realising their dreams.

It was also studied whether young people experience discrimination when looking for a job (Crul & Schneider, 2008). The study in question is about second-generation youngsters of Turkish descent. The greater majority of respondents state that they have experienced little or no discrimination. Although the incidence is relatively low, it does mean that discrimination occurs. There is data about discrimination of people who have been active in the job market a little longer (second-generation Turkish and Moroccan youngsters). About 8% reports that it occurs often or regularly, men report it more often than women.

Annex

Description of some crucial studies

TIES Study (Crul & Schneider, 2008)

TIES=The Integration of the European Second Generation. The project follows descendents of migrants from Turkey, former Yugoslavia and Morocco in seven EU member states and Switzerland. It concerns 18-35-year-olds both of whose parents were born in the foreign country. In the Netherlands, this study was conducted in Amsterdam and Rotterdam.

Hiteq Study (2009)

This study used a questionnaire survey of participants in upper secondary vocational education (sample: 1684) and interviews were conducted with ten teachers and ten workplace trainers within the technology sector. Composition of sample: 64% doing a technology course; 9% doing economics; 20% health, personal care and welfare; others unknown. Background composition: 83% native Dutch; 12% non-Western migrants; 5% Western migrants. The respondents' parents had significantly less training than the total Dutch working population.

JOB Monitor (ResearchNed, 2008)

JOB= Jongeren Organisatie Beroepsonderwijs (Student Vocational Training Organisation). The Monitor is a satisfaction index study among participants in upper secondary vocational education, which has been held biannually since 2001. Nearly all schools for vocational training take part; in 2007-2008, 83,839 usable questionnaires were filled out (population in that school year: 513,000 participants).

ROA Study (2009)

This study consists of five samples, one of which concerns upper secondary vocational education. Population: participants in the 2005-2006 school year who left school without any qualifications. No. of students approached: 5,700. Response: 1,581. The response in upper secondary vocational education was around 25%.

4 Workplace learning in upper secondary vocational education

4.1 Introduction

In this chapter, we will discuss the phenomenon of Workplace Learning (WPL). This type of learning is becoming increasingly popular, not just in the Netherlands – it is an international trend. In the Netherlands, critical publications have appeared in the past few years about the “dualisation of vocational education” (Stuurgroep Evaluatie WEB, 2001; Bronneman-Helmers, 2006; Education Inspectorate, 2006; Dutch National Audit Office, 2008). This constituted one of the reasons for ebo to survey the state of knowledge in the field of WPL with a view to improving workplace learning, especially in upper secondary vocational education (Poortman & Visser, 2009); that publication will be summarised here. In addition, the book *The Learning Potential of the Workplace* (Nijhof & Nieuwenhuis, 2008) provides an even broader view of this phenomenon; this collection of articles edited by Dutch scientists – with considerable attention to Dutch research in this area – has already been made accessible to an international audience.

4.2 Workplace learning in a broader sense

First, we will look at workplace learning in a broader sense and we will do that on the basis of a didactic model: goals – initial situation of participant and initial situation of the workplace learning context – workplace learning design and workplace learning processes – results. In the following paragraphs we will zoom in on WPL in upper secondary vocational education.

Rationales and Goals

A central question in the discussion around workplace learning is: why is the workplace seen as an important learning environment, on the one hand, but not necessarily as the most suitable place for achieving sufficient or desired learning results, on the other?

For one thing, the workplace can be considered a production environment, where learning is secondary (Nijhof en Nieuwenhuis, 2008). However, learning and working can also be considered an inseparable unit. In this vision, “natural, informal” learning as it occurs in the workplace is of key importance to the development of competencies. However, there are still doubts as to whether or not there should be interventions in these natural processes in order to facilitate this learning. The tension between working and learning, in other words, remains.

An explanation of these conflicting priorities lies in part in the fact that workplace learning is based on various rationales: different stakeholders assign different goals to workplace learning.

Nieuwenhuis & Van Woerkom (2008) distinguish four rationales that represent the various ways of thinking about workplace learning. The differentiation is clearly of an analytical nature. In reality, various rationales can occur simultaneously for a person or organisation. These rationales are:

- Preparation – qualification for work and occupation through vocational education;
- Optimisation of performance – productivity;
- Innovation, in which determining the goals is part of the workplace learning process;
- Personal development.

Since various goals can be applied simultaneously for employees and participants in vocational education, the friction between learning and working becomes concrete. The differentiation in

rationales makes it clear that there are different criteria for assessing the effectiveness of workplace learning. And that can also reduce the confusion around this theme.

In vocational education, the aims are to give participants a broad education, so that they can be employed at various (future) workplaces. The applicability of the knowledge and skills in vocational education should not be bound to one specific work situation or to a job in one company; the student should be able to start work at various different companies using the knowledge gained. In the workplace where the student receives workplace training, the emphasis is on performing the specific task in that particular company and participating in the activities occurring in that company. This is, to some extent, at odds with the philosophy of broad education. The tension observed has more to do with whether you place the emphasis on learning or on working (see table 1). The various rationales can be connected in the concept of lifelong learning.

Table 1: Friction between learning and working

| Learning as a priority | Working as a priority |
|---|--|
| Acquisition: acquiring competencies is the goal | Participation: participation in work process and socialisation are the goal |
| Broad education: <ul style="list-style-type: none"> - for nationally valid competencies and certificates: flexible skills - theory behind practice - relevance for several different work situations - complemented by other goals than just good performance, such as "citizenship" and "learning to learn" | Specific education: <ul style="list-style-type: none"> - for productivity and good performance: craftsmanship - for specific work tasks - relevance for <i>this</i> workplace |
| Direction for instance by: <ul style="list-style-type: none"> - setting time aside - learning materials and assignments - reflection and assigned supervision | Authentic learning: <ul style="list-style-type: none"> - no special time set aside for learning, reflection or supervision - work processes, materials, colleagues etc. as learning resources |

Initial situation: the learner and the learning potential of the workplace

a. Initial situation of the learner

Illeris (2002) developed a learning theory (for workplaces) that incorporates ideas from a large number of other theories; this is where the strength of his theory lies. He says learning is a process that takes place within three dimensions: the cognitive dimension (an important variable there is prior knowledge), the emotional dimension (important variables are motivation and learning sensitivity), and the social dimension (aspects of the work environment: see sub b. on the learning potential). Whether learning results are achieved always depends on the specific combination of factors from these three dimensions (Illeris, 2002; Poortman, 2007; Nijman, 2004; Blokhuis, 2006). Illeris explains that the learning process consists of four forms of internal acquisition of

knowledge: accumulation, assimilation (new knowledge is linked to existing knowledge with relative ease), accommodation (reflection is necessary to link new and existing knowledge with each other, because they do not match up automatically), and transformation. In a good learning process, assimilation and accommodation are balanced (Illeris, 2002; Poortman, 2007).

b. Learning potential of the workplace

Various researchers have searched for the configuration of factors that can stimulate learning in the workplace. (Frieling et al., 2006; Blokhuis, 2006). While Frieling et al conducted an extensive review study, for which they used predominantly German research literature from various disciplines, Blokhuis (2006) consulted Dutch theses on education. On the basis of their overview studies, both authors identify the same list of factors. However, identifying relevant factors does not indicate the relative weight of each of those factors; so far, little is known on that score.

The important factors can be classified as (Onstenk, 1997):

- Characteristics that have to do with the direct performance of tasks by that person: task autonomy (co-determining when, how and whether you yourself perform the task, or someone else, and with which criteria the result has to comply), variation in the work, complexity (whether or not complete tasks are performed – preparation and planning, execution and evaluation);
- Characteristics that relate to the social environment of the workplace: participation, communication and interaction, feedback and support by a vocational model or coach – possibilities for (critical) reflection, including introspection;
- Characteristics of the workplace as an information environment.

In addition, the pressure of the work is important. Sufficient time for reflection (Van Woerkom, 2008) and interaction with colleagues is important if workplace learning is to be effective.

Several authors used the set of factors mentioned above to study the learning potential of the workplace or to contribute to its optimisation (Frieling, 2006; Blokhuis & Onstenk, 2006; Onstenk, Oudejans & Tamerus, 2006; Evans, 2006).

Methods and workplace learning processes

a. Methods

In their review study, Wallis et al. (2007) distinguish between several different forms and methods of workplace learning. They point out the strengths and weaknesses of these forms and indicate to what type of workplace organisation they feel certain forms are best suited. We consider the relationships they construct between the "type of workplace" and the "suitable form of workplace learning" more as plausibility-guided rationales that are still to be tested rather than evidence-based statements. The forms and methods differ by their nature and the extent of their formalisation. That is the underlying, quite implicit criterion for the differentiation they propose.

The forms they differentiate are: transference model, mentoring and coaching, guided learning, action learning, peripheral participation in communities of practice (Lave & Wenger, 1991), and job rotation.

b. Workplace learning process

Various studies have highlighted how the learning process in the workplace actually takes place (Benner, 1982; Poortman, 2007). Fundamental in these studies is the discovery that, in addition to gaining experience, "theory" is significant for the workplace learning process, and remains significant over time (for instance: Jensen & Lahn, 2005). "Knowing" how workplace learning

processes take place is important when determining the way in which direction and supervision of workplace learning should be implemented.

According to the original beginner-expert model, expertise is developed by interaction between theory and experience. Supervision and colleagues play a role here. Criticism shows that the beginner-expert model is relative: the status of expert is dependent on the domain (Markowitsch, Luomi-Messerer, Becker & Spöttl, 2008), and people go through the phases at their own pace (Fuller & Unwin, 2002). At later stages, consulting ("advanced") theory or others can still play an important role.

Outcomes

According to a study by Eraut et al.(1998), (non-directed) learning in the workplace itself contributes to the development of employee competencies. In other (international) studies, learning in the workplace, related to daily work experience, is again considered to be of great importance (Berings, 2006; Doornbos, 2006; Overwien, 2002; Van Woerkom, 2003).

At the same time, better design of workplace learning in order to achieve better outcomes is the subject of this study, which is aimed at finding conditions that can contribute to improving workplace learning. Though employees often report that they learn mainly from their work experiences, consulting colleagues, searching for information or trying new things (Berings, 2006; Doornbos, 2006; Poortman, 2007), this does not mean that learning from work experience is necessarily the *best* way of learning, or that it will always result in the most appropriate learning outcome. (Nijhof & Nieuwenhuis, 2008; Nijhof, 2006). For instance, Säljö (2003) states that the power of learning from daily work experiences is greatly overrated; Achtenhagen (2001), Billett (2001), Boreham (2004) and Guile & Young (2003) also make similar remarks in their search for conditions for effective workplace learning.

However, this still does not answer the question as to what the outcome of workplace learning actually is. Some initial statements can be made, which sound fairly plausible. One of the factors is surely that of task-/job-related knowledge; acquiring knowledge that can be generalised and that is applicable outside of the specific job, is less self-evident. To a certain extent, practical (job) skills – technical and instrumental competencies – are learned (Poortman, 2007; Bailey, Hughes & Moore, 2004); real practical situations are especially suitable when it comes to the routine phase. (Nieuwenhuis, 1991; Hoeve & Nieuwenhuis, 2008). Also for learning in the social-cognitive domain (for instance entrepreneurial skills), workplace learning can be an effective and correct strategy, especially in cases where simulating "real" situations is difficult. In addition to learning technical and social skills, reference is made to the concept of knowledge of work or job processes as a result of workplace learning (Fischer, 2006; Fischer & Rauner, 2006; see also Boreham, 2002, 2004; Nijhof, 2006).

4.3 Workplace learning in upper secondary education: workplace training

In this paragraph, we will describe the "reality" of workplace training, followed in paragraph 4.4 by a discussion of research aimed at contributing to its optimisation.

A framework for workplace learning in upper secondary education

An estimated 186,000 learning workplaces (2008) are involved in upper secondary vocational education. Annually, eighty per cent of these are active as training firms. The design of workplace

training is governed by several statutory frameworks. These concern (1) the accreditation of learning workplaces by the branch-specific centres of expertise for vocational education in trade and industry, (2) the workplace learning agreement between the participant, the learning workplace and the school and (3) the scope of the workplace training: from 20% to 60% in the school-based pathway and at least 60% in the dual pathway.

As their main motive for investing in workplace training, companies name "giving youngsters a chance to gain practical experience", though the company's interest is also at stake (Hövels et al., 2007).

Workplace training goals

Upper secondary vocational education is currently preparing to introduce competence-based education (Van den Berg, 2006). Competence-based education is based on (yet) another qualification structure and must be implemented nationwide by 2010. In the qualification files, characteristic tasks of the professional are described in terms of "core tasks". Learning to apply those professional tasks in a practical sense is more central to this approach (Bolhuis, 2003). The ambition of competence-based education is to ensure better connectivity between upper secondary vocational education and the requirements of the modern labour market and society as a whole (Van den Berg, 2006).

Workplace training: preparation, direction and alignment

Participants are prepared for their workplace training at school. In this context, Swager (2000; referring to De Vries, 1988) speaks of indirect preparation and direct preparation. Indirect preparation takes place in the form of practical exercises in classrooms specially furnished for the purpose, in "company projects" that students work on at school (Poortman, 2008; Onstenk & Janmaat, 2006), and in simulations (Meijers, 2007). Direct preparation prepares the participant for the specific job where their workplace training is to take place; they receive job application training, and an introductory programme (De Vries & Meijer, 1983).

Workplace learning is controlled by and embedded in an intricate pattern of allocations of responsibilities involving the school, the learning workplace, the centre of expertise for vocational training in trade and industry, and the participant. The school coordinates the workplace training by designing or choosing among workplace training course books, organising return days or reflection meetings, and keeps track of the participant's progress through, for instance, workplace training visits (Swager, 2000).

It is expected that the job coach at the learning workplace will supervise participants during their workplace training. The role of job coach can, however, be performed in various ways. Workplace training is a form of "supervised learning", as typified by Wallis (see paragraph 4.2).

Schools and learning workplaces communicate on a micro level through workplace training visits, which the job coach or work supervisor may also attend. Subjects to be discussed could include internship (activities) during a certain period, any problems and possible solutions (Van den Bergh, Kester & Peters, 1997). Although the workplace training handbook often lists the nature and the frequency of the supervision of workplace training by the school as well as the workplace, in practice, this supervision is not necessarily performed in this way. (Poortman, 2007; 2008a; b; Dutch National Audit Office, 2008). In practice, schools often assess after the workplace training has been completed whether the relevant competencies have actually been learned and base their assessment primarily on the opinion of the coach in the learning workplace (Dutch National Audit Office, 2008; Poortman, 2007). The assessment of the job coach is often limited to "assessing

progress and registering the tasks performed”, as becomes clear in the Ecabo quality monitoring study conducted at 270 learning workplaces (Swager & Probst, 2006).

Learning activities

The content of workplace training is related to the concrete learning and work-related activities. As participants in a school-based pathway are formally supernumerary workers and participants in a dual pathway are taken on as employees, their actual effort varies per pathway. Therefore the extent to which the workplace training participants are fully-fledged participants in the work process depends on their status (Bolhuis, 2003). In order to determine in detail how learning takes place during workplace training, which activities participants perform, how they are supervised by their school and by the company and which learning results they achieve and to what extent, a case study investigated learning during workplace training (Poortman, 2007). This study showed that participants applied all kinds of different learning activities at their workplace. While it was presumed that specific learning aims would be addressed by certain (types of) learning processes, the result proved to be much more complex. The study showed, first of all, that certain factors relating to the participant or the learning environment (school and workplace) had more effect on the learning process than other factors. However, it was then found that it was the relationship between these factors that determined in each specific situation to what extent the learning outcomes are achieved. This is in keeping with Illeris’ theory, which we referred to in paragraph 4.2.

Supervision

While the manner in which workplace training is designed differs from situation to situation, there are some general findings to be reported concerning preparation, direction and coordination of workplace training. Cooperation between stakeholders is insufficient. Participants also feel that there should be more coordination between schools and learning workplaces, both with respect to the interface of workplace training and the educational programme and to the supervision provided by the school and the job coach (JOB, 2007). The Educational Inspectorate (2006) also feels that supervision of workplace training could be improved. With respect to supervision by the schools, they indicate that the participants do not experience the contacts of the school and the learning workplace as an added value. The review days that the school organises for the purpose of reflecting on workplace training appear, in practice, to differ widely in quality (Educational Inspectorate, 2006). In the JOB questionnaire as well as in the report issued by the Dutch National Audit Office, participants appear to be content with the supervision they received at the workplace. Blokhuis (2006) used a quasi-experimental setting to study how the effectiveness of workplace training might be improved by zooming in on the aspect of supervision. As a result, Blokhuis included the factors that are important for workplace learning in a supervision model for vocational trainers that fits in with Illeris’ theory about the three dimensions of learning. His study shows that optimising the effect of workplace learning is quite a challenge, because more or less experienced vocational trainers do not use the supervision model he designed at all, or not in the way it was intended. It should be noted here that in his experiments, young, inexperienced vocational trainers do tend to use the instrument he developed, probably because they still need to acquire routine with respect to their performance as a vocational trainer. In those situations, the use of these instruments proved to have a positive effect on the learning outcomes. Similarly, on the basis of case studies, Poortman (2007) finds that directing the workplace training and integrating theory and practice need to be improved considerably. These case studies took place in the care and retail sectors. On the basis of a study using propositions and interviews with participants in the administrative and metal sectors, Meijers (2003) finds that participants do consider their workplace training job as rich in context, but with insufficient coaching and possibilities for or supervision

aimed at reflection. The job coaches interpret their own role primarily in terms of “marginal job preparation” (Meijers, 2003). Broader nationwide studies as well as studies aimed at a few sectors come to similar conclusions.

Outcomes

At first glance, it seems that sufficient to more than sufficient learning outcomes specific to vocations are being achieved. Poortman (2007), however, finds on the basis of case studies that their assessment by job coaches and teachers is not reliable. Moreover, there is hardly any question of integration of theory and practice: even if assignments are done, they are often done in a minimal sort of way. Results are especially disappointing with respect to “learning to learn”, which is essential in relationship to lifelong learning. In an American study on the combination of work and school-based learning (Bailey, Hughes & Moore, 2004), the outcomes of learning on the job are investigated. Bailey et al. conclude from this study that work experience only slightly improves the “academic” knowledge obtained at school. However, that is not really the purpose of a practical internship. Students do develop practical skills to a certain extent, but in many of the situations in question to a disappointing degree, if at all. In addition, the data did not show that students generalise the skills they have developed, making them applicable in other contexts. Also, workplace learning only contributes to a limited extent to ideas about career planning. Bailey et al. do feel that this is still better than what schools offer.

4.4 Investigation of the optimisation of workplace learning in upper secondary vocational education

The applicability of Illeris’ learning theory was investigated in various studies in the Netherlands and Denmark (Poortman, Illeris & Nieuwenhuis, 2008). While the learning theory described proved to be applicable for investigation of the learning processes at the workplace (in vocational education), this does not necessarily mean that it is effective in optimising these learning processes. On the basis of the joint findings, the authors conclude that three principles need to be met to control workplace learning (in vocational education):

- three dimensions: identify the influencing factors in the cognitive, emotional and social dimensions;
- the balance between assimilating and accommodating learning processes;
- prevent “non-learning”.

The three general principles need to be taken into account when designing and supervising learning activities, but they do not give much concrete direction for schools to act on. With this in mind, another study is referred to, which investigates points of interest, guidelines and concrete practical examples aimed at improving workplace training. This literature is linked to the three core aspects from the perspective from which the school and/or the learning workplace act: preparation, direction and alignment.

Preparation

Understanding and procedures cannot be developed simply “by doing” (Billett, 2006). In other words, preparation for workplace training is necessary, in which case the participants themselves are also responsible. Prior knowledge with regard to self-directed learning is, therefore, essential (Bolhuis, 2003). In addition, according to Bolhuis (2003), the motivation of participants is often a

problem because the school formulates goals for them, rather than the participants themselves. The school could, in the preparatory phase, pay more attention to motivation and prior knowledge in relationship to self-directed learning in workplace training. For indirect preparation, simulations and "learning islands" can be considered.

a. Simulations

Above, we indicated that simulations can be used to contribute to the connectivity between learning in school and out. As early as 1991, Nieuwenhuis concluded that from a didactic point of view, schools should make more use of vocational practice places and other off-the-job educational activities. Meijers (2007) reports the success of using simulations in the course for "accounting assistant". In the investigation, questionnaires were given to participants who had and to others who had not followed a simulation, and to their job coaches. Not only the simulation interns themselves had more positive opinions of the interface between school and practice; their job coaches also had a more positive opinion of these interns with respect to the general development of their competencies (Meijers, 2007).

b. Learning islands

Dehnbostel (2001) describes the development of learning islands in German dual vocational education. The learning island is a spatially delineated part of the company, which is specially meant for learning purposes. The participants form a team of classmates and perform tasks, while being supervised by an experienced employee. However, the team itself is mostly responsible for what it does. The various roles within the team, such as team leader, rotate. Work tasks, machines and such are present within an authentic work structure; on the other hand, there is time, opportunity and supervision available for learning. The "real" work is performed in a controlled environment. According to Dehnbostel, tens of learning islands function in the dual system, integrating learning and working, and preparing students for "real" work with stricter requirements and more responsibilities.

Direction

a. Self-direction

It is quite a challenge for schools to stimulate reflective learning and self-direction and for participants to perform accordingly. According to the general principles, it is already indicated that a participant's prior knowledge plays an essential role, but in a general sense, in terms of self-direction, the participant's preparatory training and their level of experience should also be considered. A study by Hiteq (2008) shows, for instance, that students in pre-vocational education need more direction by their teacher: they require a lot of instruction and help in order to process information. Although the findings of this study cannot simply be transferred to another type of education, the study population does encompass the potential intake for upper secondary vocational education.

b. Supervision

Billett (2000) investigated whether "supervised learning" can contribute to the development of competencies needed to perform job-related tasks. In four companies in different sectors, "supervised learning" by 17 supervisors and 24 employees was studied during a six-month period. The supervisors received training in which goals and strategies were explained and they were able to practise and consider how supervision could be applied in the context of their own work. Through interviews and observation it was investigated how employees in particular experienced the effects of the "supervised learning" experience. There was no control group. The findings in this study are that while employees mostly consider their participation in the daily job practice as the

prime positive contribution to the learning process, “coaching” and “functioning as a model” were also valued positively. The questions that the supervisor asked were reported as being especially influential. However, the degree of application of the intended strategies varied between the companies and none of the companies applied them optimally, in spite of the preparatory training that was provided. This correlates with Blokhuis’ study (2006): the availability of guidelines does not guarantee that they are (correctly) applied. Therefore, proper preparation of the supervisors and actual availability of the supervisor for the employee are important conditions. In a following discussion of the workplace curriculum, Billett (2006) further elucidates the role of the learner. He points out that the extent to which learners choose to apply themselves to a certain task or interact has consequences for the type of learning process; this correlates with the idea of assimilation and accommodation. According to Billett, supervision plays an important role here. If students participate in new tasks under supervision, learning will proceed at a better rate than if the students are only allowed to take part in routine tasks (assimilation only), or to take part in new tasks but without adequate supervision (risk of non-learning). In brief, the literature points out that supervision has a crucial role in workplace learning. Competence-based learning in upper secondary vocational education requires a different role of teachers and job coaches. The motto should be: “Supervise the supervisor (or job coach)”. Billett (2000) and Blokhuis (2006) both stress the importance of this.

c. Curriculum

Boreham (2004) includes coordination as well as direction in his article about work process knowledge. He discusses the application of work process knowledge as an instrument for designing a workplace curriculum. This is explained on the basis of a case study within the German dual system. In this system, there are curriculum design teams consisting of a teacher, an experienced employee in a learning workplace and a job coach who, together, work on curriculum renewal. In summary, Boreham identifies the following principles for curriculum development (adaptation by Boreham, 2004): (1) work process as a whole is the starting point for the curriculum, (2) cooperation between the workplace and the school by aligning theory and practice, (3) integration of school learning with work experience: changing from context-free theory to higher learning processes (accommodation/reflection), (4) encouraging learning through teamwork. This concept shows how important the three dimensions and the balance to be achieved between assimilative and accommodating learning are. The same applies to the “learning islands” referred to in paragraph 4.3.

Coordination

Various authors (Onstenk & Janmaat, 2006; Glaudé & Karsten, 2007) discuss examples of “co-makership” in their studies into new forms of cooperation between schools and companies. According to them, “co-makership” will only become a reality if it is also concerned with designing learning routes together: “co-design”. This makes it easier for companies to incorporate their own insights, interests and learning opportunities and to know what students must ultimately be judged on.

4.5. In conclusion

By combining the three general principles (Poortman, Illeris and Nieuwenhuis, 2008) with the literature on various studies into improvement of workplace learning, we might be able to provide more concrete suggestions and guidelines for preparation, direction and coordination. On the other hand, the literature suggests that the question is whether the details of the design are perhaps too

dependent on the specific workplace situation. Blokhuis (2006) as well as Billett (2000) have tried to realise improved forms of workplace learning by giving specific guidelines for supervision. However, Billett concluded that the form and development of a workplace curriculum is the result of the unique requirements and needs of a specific workplace (2000; 2006). Blokhuis' respondents also indicated that the guidelines were not always applicable to their own work habits or their specific work context. Therefore, it is questionable whether it is possible (and desirable) to draw up specific guidelines.

5 Competence-oriented learning in upper secondary vocational education

5.1 Introduction

The significance of vocational training for the job market has been the subject of thorough reflection for several years now. Ever since the 1980s, countless committees have worked on the content and design of this form of education. These reflections have led to the political decision to introduce competence-oriented education in upper secondary vocational education, with a new competence-based qualification structure as guiding principle. Better connectivity between education and the practice of the workplace and lower dropout rates in the courses are goals that are to be achieved in this way. This choice is being studied with critical attention, especially since there was often insufficient research to judge this change on its merits. What do and don't we know about this educational concept? A review study by Van den Berg & De Bruijn (2009) describes the state of the art of knowledge about competence-oriented vocational education. We will summarise that study here, but only insofar as the formal knowledge sources about upper secondary vocational education are concerned.

5.2 Typification of competence-based learning

The reports on the renewed design of Competence Based Vocational Training give a reasonably good overview of its introduction process in upper secondary vocational education (Van den Berg & Doets, 2005; Baarda, 2006; Van der Meijden, 2007; Inspectorate, 2007). What typifications and aspects of competence-based vocational training can we distinguish on the basis of the formal research literature and what causes, motivations and principles are involved? This leads us to emphasise the following in the implementation of competence-based education.

Workplace learning/learning on the job

A central theme in the design of competence-based education is the improvement of learning on the job and/or increasing the share of workplace learning in the programme and researching its effects. Two aspects are involved here. The first one is attention paid to supervision by job coaches at the workplace, their activities and training, and cooperation and coordination with the teachers at the school. The second aspect is paying attention to the organisation of the workplace in terms of authenticity and opportunities for learning and reflection.

The main reason for promoting learning on the job is that the industry and the government wish for better alignment with the needs of professional practice. The ambitions are therefore to ensure that courses are work-related in a practical sense and to optimise the quality of learning. The intention of all of this is to help the skilled workers and professionals in training to grow into professional practice and to develop their professional identity and skill in that way. In so doing, the technical and socio-cultural complexity of vocational practice has a greater influence on the study programmes.

In-depth learning

A second focus in the literature is to design a learning environment in such a way that the power of workplace learning, on the one hand, and the possibilities for reflection and deeper insight at a distance from the workplace, on the other, are connected (Vreman-de Olde & De Jong, 2003; Hoek, 2004; De Bruijn, Leeman & Overmaat, 2006). This could be done in the form of simulations, in a company as well as in a school setting where learning and working are combined. It could also take the form of working on assignments from the industry, where an educational track is woven into the assignment in order to optimise the learning result. Educational development work often works on "the atoms", the essential building bricks of the educational process: the tasks and assignments that conspire to direct the participants' learning process and the concrete learning environment within which those tasks can be done.

This is often done in response to education-specific insights into the definition of learning content as well as optimisation of learning processes aimed at connecting and integrating practical experiences with theoretical knowledge and skills into deeper (personal) insights and actions. The ambition here is often many-sided. Giving practical experience a more central role and working on the basis of practical assignments are intended to improve the connectivity between education and occupational practice, as well as creating education that increases students' motivation. At the same time, the ambition is to ensure that learning processes are designed such that they enable the development of complex activities.

Self-directed learning

According to the research literature, designing self-directed learning is an important aspect of competence-based vocational training (Bouhuijs et al., 2003; De Bruijn & Van Kleef, 2006; De Bruijn, Leeman & Overmaat, 2006).

On the one hand, the reason is the wish to adapt to the new requirements of professional practice and characteristics of the future career, in which independence and self-directive capacities are important concepts and educational goals. On the other hand, more freedom for the learners is consistent with the new conventions in wider social and pedagogic contexts. This means that it is a conditional process aspect of education, aimed at engagement and motivation. But new insights into the course of learning processes that stress the importance of an active and constructive role for the learners also lead to attempts to partly and also gradually give the participant more control and self-direction.

Cooperative learning

A fourth aspect of competence-based vocational training is working in groups, learning through dialogue or cooperatively (Meijers, 2004; De Bruijn et al., 2005; Hijzen, 2006; Kuijpers, Meijers & Bakker, 2006; De Bruijn, Leeman & Overmaat, 2006). This emphasis seems to be less prominent than the previous three aspects. As with self-directive learning, cooperative learning in vocational training has a learning goal as well as a process and organisation characteristic of education. Being able to work in a group is a requirement of many jobs, while learning, according to prevailing educational psychological principles, is by definition a process that takes place in interaction with other people (also see Illeris – chapter 4). Here, too, the aim is to optimise the educational learning process.

Tailor-made learning

Improving flexibility in educational routes is a fifth characteristic that is being formed in competence-based vocational training, at least according to the collective literature on the subject.

This concerns greater flexibility of contents and organisational aspects of the curriculum, as well as more flexibility in the pedagogic-didactic approach.

The reason for this lies in the wish to cater for the characteristics and the needs of the heterogeneous participant population of vocational education. In addition, the ambition is to be able, through higher flexibility in the educational routes, to respond with more alacrity to developments in (regional) vocational practice and the job market.

5.3 Research into design

There are hardly any studies that discuss all of the design aspects of competence-based vocational education. The studies that do so are mostly inventory studies: (Inspectorate, 2007; Van der Meijden, 2007; De Bruijn, Leeman & Overmaat, 2006) or collections of examples from practice: (for instance Van den Berg & Doets, 2003; Onstenk, 2004; Meijers, 2004; Geurts, 2004).

Learning content

When considering the research literature, an explicitly mentioned emphasis on content is conspicuously lacking. While changing content (in terms of qualifications) is one of the reasons for redesigning the educational process, the definition, selection and ordering of contents are not a central point of attention when designing it, as was the case in the 1990s. In theory, the matter of the learning contents is an important point of attention in the five distinct aspects of competence-based vocational education. However, in the concrete designs and reflection on those designs, content barely shows up as a point of attention, at least when considering the research literature. In other words, it is mostly not about the "what" of learning and supervision, but especially about the "how". This is seen mostly in the categories of self-directed learning, cooperative learning and tailor-made learning, but the aspect of content also tends to fade into the background in the other two categories (workplace learning and investigative learning).

The study done by Toolsema (2003) explicitly discusses the definition of learning goals and content of vocational training from the point of view of the characteristics of professional practice. On the basis of empirical research into school leavers of upper secondary vocational education, Toolsema draws the conclusion that there is a clear difference in the sets of competencies between differing occupations. There are some generic competencies (learning and career competencies) that apply to all occupations.

Some Dutch reports on practical examples from technical vocational education show how the learning content of technical vocational education is being reformulated and structured. Onstenk (2004), for instance, uses several examples to illustrate how flexible learning routes are becoming possible within the broad field of technology, but also how new educational routes are being designed that are based on the overlaps between various vocational domains. Finally, the domain of learning content is discussed in several publications with the development of a work and professional identity as a frame of reference (Vrieze, Mok & Smit, 2003; Meijers, Kuijpers & Bakker, 2006; De Bruijn, Leeman & Overmaat, 2006). These publications agree unanimously that there is indeed less attention paid to identity development than would be desirable.

Supervision

Much of the literature discusses the domain of supervision, mostly the supervision by teachers and, to a lesser degree, by job coaches in the workplace. The reports shows what supervision looks like and what problems are encountered. Often the perceptions, visions, ambitions and wishes of teachers are discussed. Also, a number of studies pay attention to the education participants: what are their experiences with the supervision they received and do they have any suggestions to make?

In their study of the supervision of trainees in upper secondary VET (hospitality and tourism sectors), Vreeze & Postma (2006) find that supervisors adapt their didactic repertoire to the kind of trainee they have. The researchers point out six didactic interventions that the supervisors use: modelling, articulating, coaching, scaffolding, reflecting and exploring. The goal of the study was to determine whether and to what extent the various didactic interventions contribute to the participants' use of a constructive learning style. The results show that "articulating" and "scaffolding" have a negative effect on the trainee's reproductive learning style. "Scaffolding", however, does have a positive influence on the constructive learning style. "Modelling", on the other hand, has a negative relationship with the trainee's constructive learning style and a positive relationship with their reproductive learning style. The researchers explain this on the basis of a reverse causality: the supervisor adapts his supervision activities to the trainee's learning style.

From an inventory taken by Grinsven & Krom (2007) among teachers and job coaches within the economics sector of upper secondary vocational education, it appears that coaches in the workplace feel that as a result of competence-based vocational education, more supervision is required. Job coaches who have experience with trainees and graduates from competence-based training courses have a reasonably clear idea of what is expected from them and what they must do. Problems – as experienced by job coaches – occur when the instructions given to the learning workplaces with regard to the amount of supervision needed, the amount of attention to developing entrepreneurial knowledge and skills, and the method of examinations are not clear.

A core problem when promoting self-direction by participants is the extent to which and the manner in which the teacher teaches the student to regulate. From earlier research, especially in general secondary and university education, it is known that self-regulating one's learning process is not self-evident, but that it can be learned. The challenge is to find the right balance by choosing work forms and supervision forms that challenge the participants to fulfil the learning functions themselves which are needed to bridge the gap between what they have already learned and what they must do in their new situation. In an in-depth study into the supervision practice of teachers in upper secondary VET, it appears that this exact point – finding the right balance – is what they are exploring and experimenting with (De Bruijn & Van Kleef, 2006). An important given in this matter is that self-regulation is something that needs to be learned. In practice, however, it is often overlooked. Further research into this theme is, however, scarce. There appears to be a considerable difference between that which students and participants experience in their supervision and what teachers and supervisors think they are providing in the area of supervision. Participants and students feel that they do not receive sufficient personal attention from teachers and supervisors. However, teachers are convinced they are giving adequate personal attention. Research shows that they regularly fall back onto traditional forms of supervision.

Research into the design of supervision from the perspective of participants shows that they are often very pleased about their supervision at the workplace (Van Zutven & Lommen, 2002; Meijers, 2004; Poortman, 2007). Especially the experience that they are seen as a "fellow worker" rather than as a student is valued positively. They feel that this approach, which they interpret for themselves as being respectful, is often lacking in school settings (however, there can be a certain reciprocity involved: they act more grown-up in the workplace too).

New forms of assessment

In many publications, competence-based assessment is put forth as a difficult matter for design (Smulders, Derkzen & Klarus, 2002; Tillema, 2003; Van den Berg & Doets, 2003). In practice, increasing attempts are made to use behaviour in realistic or authentic work situations as a reference point for assessment. Two instruments that are often used in this respect are

portfolios and the so-called "Proofs of Competence", mostly in combination with reflection meetings. From these, it will have to become clear whether students show the desired behaviour and therefore the desired learning results. The transparency of the assessments is, however, problematic – students in particular complain about this. It feels to them as though the objectiveness of assessments has disappeared. This is one of the reasons why schools often maintain the familiar knowledge tests. Below, we will name several recent studies that address this problem. They form a first part of the formal knowledge basis with recommendations for the practice on how to set up competence-based assessment.

In her study, Baartman (2008) is completely focused on the forms of assessment schools use in their programme of testing and completion. She has developed a framework of twelve quality criteria for competence-based assessment programmes in which "tried and tested" criteria were included as well as "new" criteria that go with the nature of competence-based vocational education. That framework of criteria has a basis in theory as well as being validated in practical relevance. The conclusion from the study by Baartman (2008) is that authenticity is an important characteristic of competence-based assessment.

However, authenticity is a difficult concept. Gulikers (2007) studied the characteristics of assessment authenticity and the different perceptions of those involved, especially students. The extent to which a criterion situation is involved is crucial; in other words, the professional practice situation on which the authentic assessment is based, refers to the level at which the student functions (in view of experiences, skills and knowledge). This is a different level and a different context than that of the expert. It is clear from the study that it is important to acknowledge that the perception of students as to what is authentic, varies; in addition, it is different for senior students than for beginners. Assessments that teachers or the workplace typify as authentic need not be experienced as such by students. The assignments can feel artificial to them.

Learning environments

Shaping learning environments involves the characteristics of the learning (work)place and the assignments directing the learning process, as well as organisational and grouping forms. A considerable number of publications consist of a combination of examples from practice for competence-based learning environments and reflections on them.

a. Authentic learning tasks

Research by Bouhuijs, Gulikers-Dinjens, Ummels and Rienties (2003) focuses on the question of whether educational environments based on active or independent learning can also be used in upper secondary vocational education at lower levels. On the basis of six examples from practice in the various sectors, the authors conclude that the development of a proper approach is dealt with in quite varied ways. All the examples show how important it is to base working and learning on recognisable (professional) situations from daily life: for this group of participants in particular, authentic learning tasks are essential to keep them motivated.

b. Workplace learning (see also chapter 4)

Workplace learning has an important role in vocational education and is assumed to contribute to the integration of theory and practice. However, workplaces cannot be seen as powerful learning environments (simply) by definition. For instance, it is not self-evident that there will be a transfer of knowledge via workplace learning. Direction by the school as well as the facilitating organisations regularly proves insufficient. Systematic knowledge of learning processes that take place in the workplace seems to be lacking. This prompted Poortman (2007) to use a number of case studies to research the learning processes that take place in workplace training in upper secondary VET. She compares the outcomes of extensive observations during workplace learning as well as school-based learning. The research results confirm a continued friction between the educational goals and learning outcomes relevant for professional practice. As was shown in earlier research into internships in vocational education, there is a clear discrepancy between the contents of the work within workplace training and the theory taught at school. For instance, students indicate that at work, they are faced with problems about which they had been given insufficient information at school. In addition, the results show that school assignments are used in differing manners, that schools seem to have little control over the participants' learning processes and that supervision of students is performed in various ways. In addition, progress and knowledge are recorded and assessed in differing ways. In addition, Poortman concludes that there is no systematic direction from the workplace training institutions. A report of the Education Inspectorate (2006) confirms Poortman's (2007) findings: there is still plenty of room for improvement in the workplace and in the alignment between companies and schools.

5.4 Research into effects

From the previous paragraph it becomes clear, judging by the available research knowledge of the design of competence-based vocational education, that in a practical sense, this type of education has by no means been implemented everywhere or that the process of implementation of this type of education is well underway. Because competence-based education has to date only been implemented on such a small scale, it is generally speaking not yet possible to demonstrate what effects it has on students. However, it is possible: (a) to make more explicit in the interim the so-called soft effects (motivation, satisfaction and appreciation) but also hard effects (such as test results and exit data) within all developmental phases of competence-based education and (b) to study soft as well as hard effects in small-scale practices which already have completely implemented one or more aspects of competence-based vocational education.

Results of studies with harder effect measures

From evaluative research by De Bruijn, Hermanussen and Van de Venne (2008a; 2008b) involving repeated measurements of relatively large groups of students, projects starting to implement competence-based education cannot always keep potential early school leavers within their walls. In these projects, there are more students transferring to schools with more "peace and quiet". In these projects there are also more school leavers leaving upper secondary VET with no qualifications, that is to say, school leavers who do not (immediately) continue their education. The researchers do point out that these are not yet definitive results. A number of Dutch studies show various positive results where effects of aspects of competence-based education are concerned. De Bruijn et al. (2005) show that systematic stimulation of self regulation clearly contributes to the study progress of participants in upper secondary VET. However, the relationship between

characteristics of powerful learning environments, motivation and internal return is not clear. During the transition to innovative learning environments, participants can lose their footing and give their learning environment a negative rating if they are unable to sufficiently co-direct the transition in the learning method.

Gog (2006) expands on the findings that she put forth at the end of the 1980s: students learn best by studying examples. Research into learning from problem solving versus learning from elaborated examples has shown that this latter is often more effective and efficient, at least for beginning learners.

Blokhuis (2006) researched within three organisations (a hospital, an ICT company and a bank) whether the application of guidelines for interaction between the supervisor and participant leads to better acquisition of the professional competencies in the workplace. Working with guidelines proved not to lead to better acquisition of competencies. However, participants are happier with their supervisor, but even there, no significant differences are found between those who do and those who do not make use of the guidelines. Other insights from this study have to do with supervision. Supervision of students by employees who are relatively inexperienced in supervising or who are well prepared beforehand for supervision leads to better results than supervision by employees who are experienced supervisors.

Results from research with soft effect measures

In contrast to results from the study mentioned above into the harder effect measures that often do not seem to show an effect, positive results are often reported on the basis of research into effects in terms of motivation, involvement and contentment. Although even here, the trend is not unequivocal.

From a large-scale study by Meijers, Kuijpers and Bakker (2006) into career counselling in (pre-) vocational education, the career dialogue conducted at school in the form of a structural dialogue about the career was found to contribute to the student's learning motivation. A well-developed work identity, stimulated in part by having the opportunity to take part in a career dialogue while at school, contributes to learning motivation. In addition, there is a connection with the risk of early school leaving: as youngsters' work identity becomes stronger, they are less inclined to leave school prematurely.

On the basis of action research, Ritzen (2004) detects in upper secondary VET that the degree to which participants are satisfied with their educational learning process correlated with the extent to which teachers adapted their pedagogic-didactic practice in the direction of competence-based vocational education. In this study, competence-based vocational training is described as education in which an effort is made to achieve the best "fit" between characteristics of students and participants and the requirements of the labour market and a chosen occupation. The outcomes of the study are based on data that were collected from five cases in the trade, care, and ICT sectors.

Research by Den Boer, Mittendorff & Sjenitzer (2004) into the effects of career counselling of participants in (pre-) vocational education shows no difference in the effect (contentment, right choice) between participants doing traditional courses and participants in newly designed courses. In this study, competence-based vocational education is defined as vocational education aimed at the formation of a professional identity and at self-direction of participants in processes of choice. Various studies report that participants are often still very critical of the new forms of education. For instance, the latest report on the monitor of process redesign in upper secondary VET inventoried the image those involved had of a wide number of aspects of competence-based

vocational education (Van der Meijden, 2007). It shows that those involved are reasonably content with their (competence-based) training, though the management is clearly more content than the teachers, and the teachers more so than the participants. With respect to the participants, there is a considerable spread among training programmes, which means that participants doing one course are more content than participants doing another. With respect to the realisation of tailor-made learning, participants are quite negative (more negative than students in non-experimental training courses). This is confirmed by other studies.

Various studies (Meijers, 2002; De Bruijn et al., 2008) describe the effects on students, as reported by the parties involved, of the changes in the design of their training. In general, these are positive experiences. Grinsven & Krom (2007) report, on the basis of a large-scale inventory, that job coaches are positive about the attitude and skills of trainees and graduates, but critical about their active knowledge.

5.5 Insights

We can initially conclude that more attention needs to be paid in the near future to the “what”, the content. It is striking in that respect that when competence-based education is set up, the “how” seems to dominate the “what”, even though competence-based education is, in principle, based on a different content so that the “what” should explicitly be attended to.

A second insight is that from interim research results on the relationship between design and effects, we can infer that a certain balance in the pedagogic-didactic approach or a synthesis between proven and experimental approaches are worth striving for when designing the learning environment and supervision. Where effects are concerned, there seem to be few positive hard effects so far from approaches that exclusively contain the new experimental approaches. Proven supervision methods such as direction and structure continue to have their worth, especially for participants who are less strong. Positive effects of new approaches are reported more often where motivation, involvement and contentment are concerned. These are important interim results because, as research has shown, without motivation and involvement, learning becomes a lot more problematic.

A third insight is that it is important to involve participants in the changes in competence-based vocational education. The discrepancy between students’ experiences and what teachers say they are doing, is currently too great. This discrepancy can be partly explained from the state of affairs in the area of the design of competence-based vocational education. At the level of learning and supervision, the direction is not always clear. The fact that learners are sometimes quite critical is on a par with this fact. In the turbulence of the changes, they start losing their sense of security and they cannot yet see what they will be getting in return. Weaker and younger participants in particular tend to start drifting out of reach under such circumstances. Therefore, the said discrepancy is an important risk factor. Consciously involving the learners in changes and practising transparency are, therefore, urgently needed measures.

This last observation highlights the importance of tailor-made learning as a fourth and so far, final insight. In view of the differences between participants in vocational education, the differences in the intended outcomes of training routes and the importance of a congruent approach, competence-based vocational education can only be successful if tailor-made learning is given a central position.

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Chapter 4: Workplace learning in upper secondary vocational education

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Chapter 5: Competence oriented learning

The chapter is a summary of the review study:

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