



Practical learning for secondary vocational education in the Netherlands

February 2024

1 Introduction

The project examines, among other things, how new developments within the field, aimed at shaping 'Healthy Building', can have consequences for formal training within the VET sector and at higher levels. In line with this, innovations in the demand for current competencies can lead to a supply for workers using small and narrow units. This includes obtaining certificates for micro-qualifications, in-company training, workshops, micro-credentials and other types of qualifications.

Once the content of such a new qualification, clearly recognizable by the appropriate learning outcomes and competencies, has been determined, it can be included within an existing training course at a certain level or offered as a stand-alone part of such a course. It will be necessary to decide what the best design is to achieve the desired effect, namely that the student or adult learner can acquire the relevant competencies at the intended level. This may involve theoretical instruction at school, using a practical, by organizing an online session or in some other way.

But many such practice-oriented qualifications lend themselves to having a learning experience in a workplace, within a company. This can especially happen within an internship or another form of practical learning. However, this means that there must be a 'guarantee' for the learner that the workplace is relevant, meets the requirements set by the educational institution, the guidance is in order and that the assessment takes place correctly. This means that the 'quality of the working environment' is guaranteed.

In the Netherlands, the assessment of the workplace for training within the VET sector takes place 'on the spot' by experts from the SBB, the National Agency for VET qualifications. A standard procedure is followed in order to be able to make an independent judgement.

This document describes all of this in broad terms, as an example of how certain practical components can be assessed. Naturally, such systems are also known in other countries, but a comparison can be made with them. It is possible that a list of similarities for the systems can be drawn up at the end of the project, as a recommendation.

1.1 Structure of the document

It was decided to divide the document into a number of parts. It is important to first gain insight into how the VET sector is embedded in the national education system. This shows how these students can end up at a VET College (ROC in Dutch) and what options there are for further study in higher education.

Part A The Dutch education system

Part B The VMBO and profiles that are relevant to our project

Part C The MBO, the profiles, assessing the workplace (internship) and related aspects, progression to higher education, etc.

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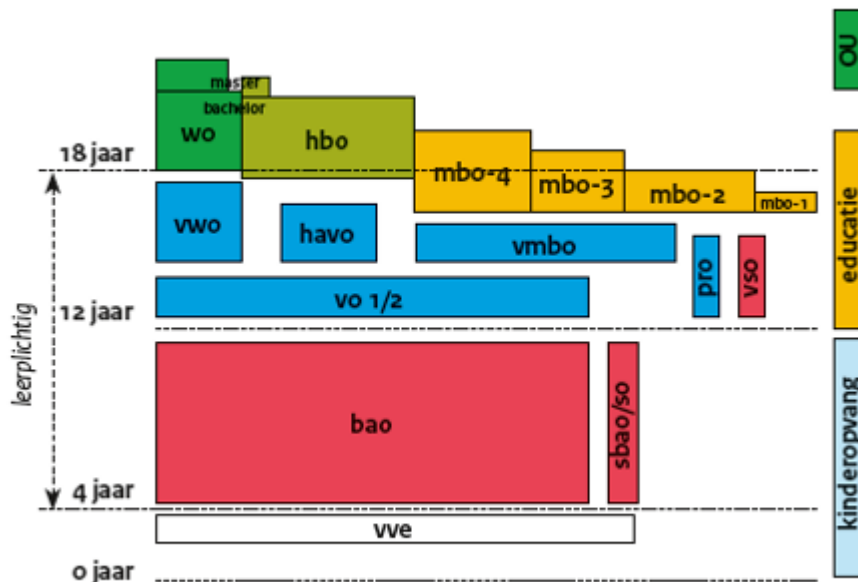
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Part A

3 Brief introduction to the Dutch education system

It is of course a good idea to first consider how the VET sector can be positioned. The Dutch education system can be captured in the diagram below:



3.1 Preschool education

Pre-school education (VVE) exists in the Netherlands for toddlers with (a risk of) an educational disadvantage. Toddlers aged 2.5 to 4 years receive a stimulating offer in a playful way to prevent

or reduce their disadvantage, so that they make a good start in primary education, which lasts 8 years.

In groups 1 and 2 of primary school, these vulnerable children can then also receive early childhood education, in which case aimed at a good start in group 3.

3.2 Primary and special education

From the age of four, most children go to primary school (BAO), which consists of 8 grades. However, children are required to attend school from the age of five.

Special primary education (SBAO) and special education (SO) are aimed at students who need specialist support.

3.3 Secondary education

The average age at which children enter secondary education (secondary education) after primary education is 12 years. Secondary education consists of four different levels: 'practical education (PRO)', 'preparatory secondary vocational education (VMBO)', 'higher general secondary education (HAVO)' and 'preparatory scientific education (VWO)'.

Pre-vocational secondary education consists of different sectors, for example administration and technology, and also has different levels. A student who only completes the so-called 'basic vocational learning path' must start in 'secondary vocational education (MBO)' at level 2. A student who successfully completes the so-called 'master vocational learning path' has access to the higher levels in the MBO. This also applies to the mixed and theoretical learning path.

2.4 Secondary vocational education

In secondary vocational education (MBO), four qualification levels can be distinguished: entry training (level 1), basic vocational training (level 2), vocational training (level 3) and middle management and specialist training (level 4). A level 2 graduate has a starting qualification for the labour market and is no longer obliged to attend education once the age of 18 is reached.

An MBO student can choose a vocational training path (BOL) and a vocational training path (BBL). At BBL the emphasis is more on practice (at least 60% of the total study duration takes place in practice).

2.5 Higher Professional Education

Higher vocational education (HBO) generally leads to a bachelor's degree with a four-year program. There are also programs that last two years and lead to an associate degree. You can then continue on to a bachelor's degree program.

Universities of Applied Sciences can also offer Master's degrees.

2.6 Academic Education

Universities (wo) offer courses leading to a bachelor's degree or a master's degree. It is also possible to obtain the PhD degree there.

2.6 A disadvantage of the Dutch education system

As the diagram shows, an important step is taken by a student at the age of 12: Which further education do I choose? The assessment of the primary school teacher, supported by results from a national 'progression test', determines which further education the student will attend.

In theory, it is possible to progress from a low level of education to a higher one, for example from the basic vocational learning path at pre-vocational secondary education to the mixed learning path at pre-vocational secondary education. But in practice, few students can take this step and it costs (many) extra years of education if, for example, they also want to go to higher education.

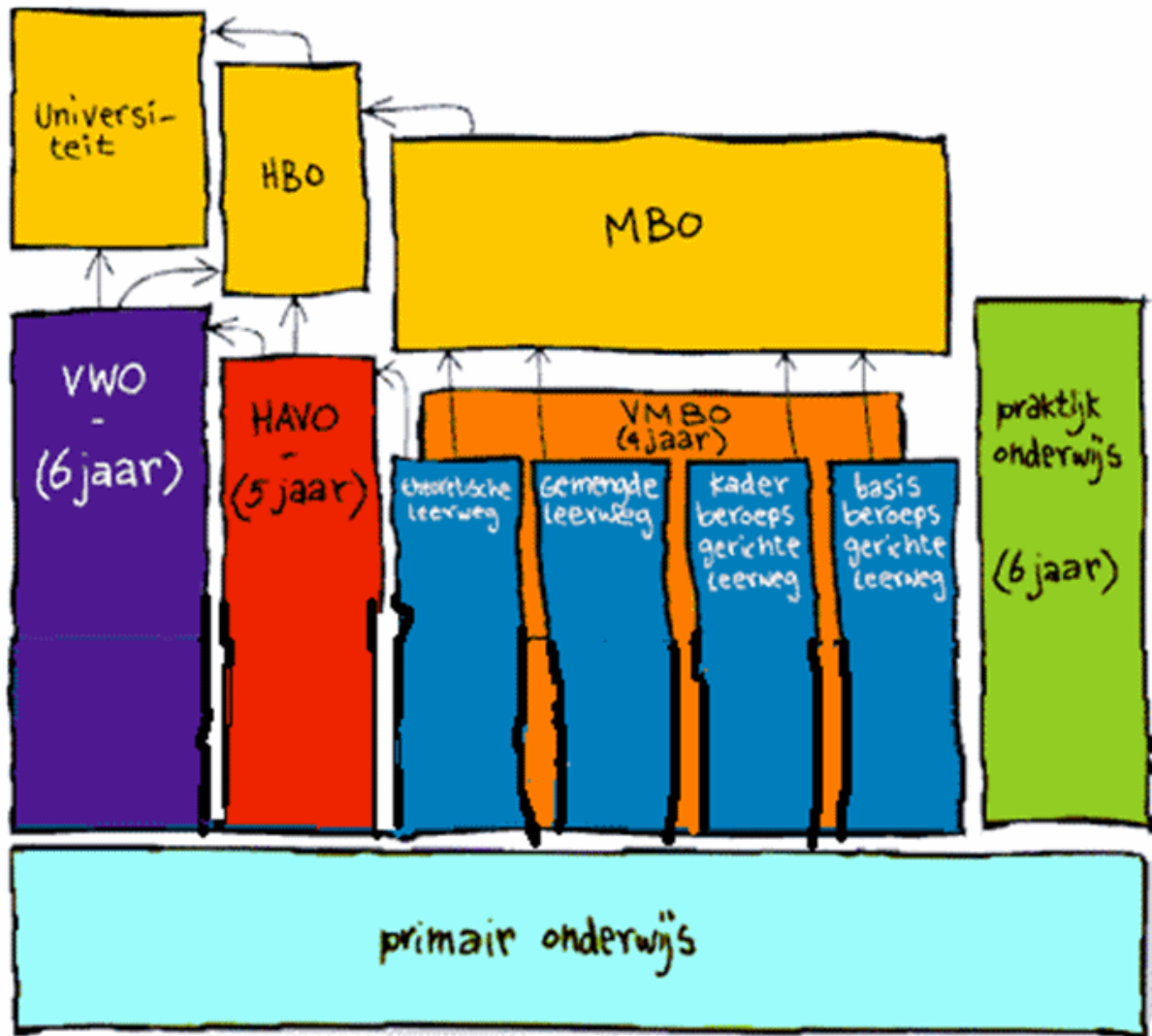
Part B

3 A closer look at Preparatory Secondary Vocational Education (VMBO).

About half of the outflow from primary education goes on to VMBO, i.e. preparatory secondary vocational education.

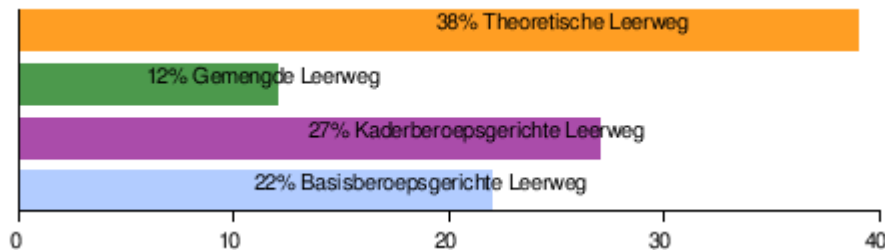
VMBO lasts four years.

Schematically it looks like this:



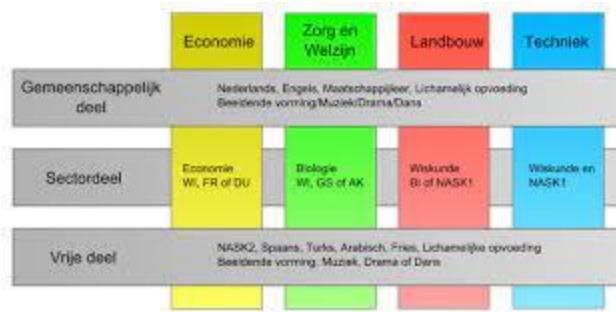
VMBO has four options with a different level and often a different didactic approach: the theoretical learning path, the mixed learning path, the framework vocational learning path and the basic vocational learning path. These four learning paths lead to diplomas at different levels, with the level of the theoretical learning path being the highest and the level of the basic vocational learning path being the lowest.

In terms of number of students, the distribution is approximately as follows:



In recent years we have seen that some graduates from the theoretical learning path move on to HAVO. Often the goal is to end up in higher education via this route, and not via MBO.

The theoretical learning path has four profiles. Each profile consists of a common part, a sector part and a free part, as shown in the diagram below. The choice of profile determines the progression options to MBO.



The other three learning paths have different programs, often called profiles. The first two years are common for each learning path. In the third and fourth year we specialize in a profile. There are a total of 10 different profiles:

- Construction, Living and Interior
- Services and Products
- Economy and entrepreneurship
- Green
- Catering, Bakery and Recreation
- Maritime and technology
- Media, design and ICT
- Mobility and Transport
- Production, Installation and Energy
- Care and welfare.

3.1 Profiles of pre-vocational secondary education around our project

For our Co4Health project, the profiles 'Building, Living and Interior' and 'Production, Installation and Energy' are the most important.

3.1.1 BWI (Building, Living and Interior)

In the Construction, Living and Interior (BWI in Dutch) profile, attention is paid to three directions. Construction is about building houses and everything that comes with it. The direction of living is about how a home can be furnished. Interior is the design and styling of a home or building. This profile focuses on an introduction to the field and the subjects mathematics and physics/chemistry are mandatory. The number of students following this profile in the third year was 4,143 in the 2022-2023 school year. That is an increase of 21% compared to the year before. In no other profile has the number of students increased so much. The increased wages and the shortage on the labor market will be 'to blame' for this. There are more than 170 cities throughout the Netherlands where this profile is offered at VMBO institutions.

The professions for which graduates who have followed the Construction, Living and Interior profile are trained are, for example:

- carpenter
- bricklayer
- painter, interior builder
- executor
- tiler
- technical draftsman.

3.1.2 PIE (Production, Installation and Energy)

In short, the Production, Installation and Energy (PIE) profile is an introduction to the installation of water, gas and electricity systems. Here too, the subjects mathematics, physics and chemistry are compulsory. The number of students following this profile in the third year was 4971 in the 2022-2023 school year. This is an increase of 8% compared to the year before. The popularity of technical courses is increasing relatively. The number of training places will be in the same order of magnitude as those for the Construction, Living and Interior profile.

The number of VMBO students in the third year compared to the previous school year has increased by 6.3% to 61,920 in the third year.

The professions for which graduates of the Production, Installation and Energy profile are trained are, for example:

- heating engineer,
- metal worker,
- welder,
- technical craftsman,
- roofer,
- electrician,
- home automation specialist,
- a job in mechatronics
- a job in the energy transition.

You must realize that in practice it is quite possible that someone who has chosen a different pre-vocational secondary education profile will still be admitted to a course that trains them for one of the above professions. On the other hand, it is possible that someone with the BWI and PIE profiles chooses a different further education. A vocational training course that is in line with the chosen prior education generally offers the best chance of certification.

Of the pre-vocational secondary education (VMBO) graduates who have followed the mixed learning path, the intermediate vocational learning path and the basic vocational learning path, almost everyone moves on to MBO.

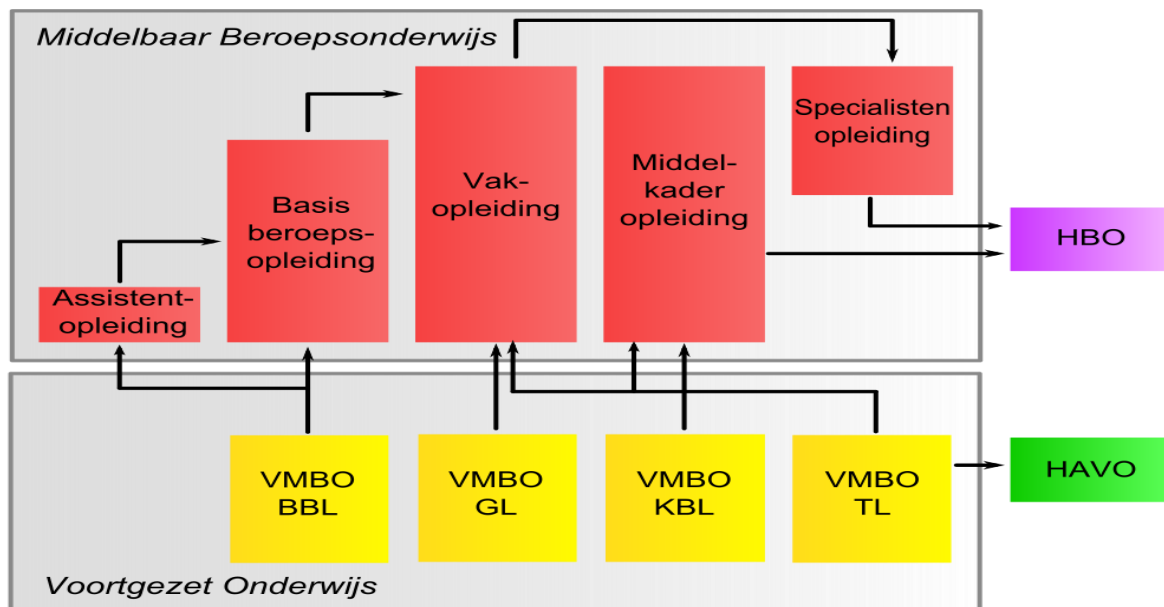
Part C

4 Secondary vocational education (MBO)

Most MBO courses such as construction, technology, healthcare, social professions and economic professions are given at Regional Training Centers (ROCs) - VET Colleges. These courses fall under the Ministry of Education, Culture and Science.

There are also professional institutions; they provide secondary vocational education courses in one sector (for example graphic design).

In addition to public or special institutions funded by one of the ministries, there are also numerous private training institutions that can issue recognized MBO diplomas. Hairdressing schools and beauty institutes in particular are often private training centers.



4.1 Levels in MBO

MBO courses are provided at four different levels:

level 1: assistant professional (no starting qualification)

level 2: employee / basic professional

level 3: self-employed employee / independent professional / vocational training

level 4: middle management official / specialized professional (provides access to higher professional education)

MBO does not have a national central exam like secondary education with VMBO, HAVO and VWO. The content of the courses is determined nationally (in terms of final objectives or competences), but each educational institution determines for itself how it is examined. This can be done using self-developed tests or exams from national organizations. To prevent this from leading to major differences in final level, the Education Inspectorate monitors educational programming and examinations. Centrally developed exams will be introduced for the subjects Dutch and Arithmetic (Calculation).

4.2 Admission to the MBO

Students are admitted to secondary vocational education with the following qualifications:

- level 1 has a barrier-free entry;
- for level 2 you need at least a pre-vocational secondary education (VMBO) diploma (Basic Vocational Pathway);
- for levels 3 and 4, at least a pre-vocational secondary education (VMBO) diploma (master vocational training track, mixed learning track or theoretical learning track) or transition certificate from HAVO/VWO 3 to HAVO/VWO 4 is required;
- with a HAVO or VWO diploma, the student can participate in an accelerated track.

4.3 Two learning paths

All MBO courses are given in two forms:

- vocational training path (BBL). The student is employed by a company for at least 24 hours per week. The student goes to school one day a week. In the past, this was called an apprenticeship system or sometimes 'vocational school' or 'regional school'.
- vocational training path (BOL). The student has no permanent employment contract and goes to school four or five days a week. He does an internship for part of his training (professional practical training). A student in the BOL course receives at least 850 hours of lessons and/or guidance.

4.4 Example: Carpenter

Let's zoom in on a well-known profession such as carpenter.

The training to become a carpenter is a level 2 training course. This means that a graduate of the basic vocational learning path in pre-vocational secondary education can start working with the Carpenter diploma after two years. When someone at pre-vocational secondary education (VMBO) has completed the vocational training program with a suitable set of subjects, he or she can immediately start with the All-round Carpenter training. This training takes 2.5 to 3 years. It is also possible to follow the All-round Carpenter training after completing the Carpenter training. This further training takes approximately one year.

Is there also a Carpenter training at level 4? That depends on how you define this. There is the Construction Middle Officer training course. This position involves managing projects, recording work and monitoring the implementation of projects. This graduate no longer has a hammer or saw in his or her hand. A pre-vocational secondary education (VMBO) Theoretical Learning Path diploma is required to access this course. Formally, graduates with only a diploma from the vocational training program are also admissible.

In 2022, 1054 students will have been certified for the Carpenter course. Of these, 61% have moved on to another MBO course. 34% have started work. There were 600 vacancies at the beginning of 2023. The labor market opportunities for these starters on the labour market are therefore favourable.

In 2022, 817 students will have been certified for the All-round Carpenter course. Of these, 17% have moved on to another MBO course. 73% have gone to work. Since there were 700 vacancies at the beginning of 2023, the labor market for the All-round Carpenter was favourable.

The Middle Management Construction Officer had 956 graduates in 2022. A graduate of this course has access to higher professional education because this is a level 4 course. 54% of graduates start a higher professional education and 42% go to work. The labour market with 3150 vacancies for this course. There is therefore a huge demand for these graduates.

The 'Corporate Vocational Education Foundation', which is fully subsidized by the government, provides this information for each secondary vocational education course.

5 SBB

The Collaboration Organization for Vocational Education and Industry (SBB) is responsible for carrying out the statutory tasks arising from the Vocational Education Act. These tasks are:

- Recognizing and guiding training companies;
- Maintaining the qualification structure of secondary vocational education;
- Providing information about the labor market, vocational training (internships and apprenticeships) and the effectiveness of the training offered.

The goals of SBB are as follows:

- MBO students receive the best practical training with the prospect of a job;
- Companies have the professionals they need now and in the future.

More than other sectors, MBO has a close relationship with the business community. This is partly formally laid down in legislation and regulations. The business community is represented in the sector chambers and the market segments of SBB. In this way, the business community helps decide on the qualification files, qualifications, qualification requirements and electives within MBO.

6 Regional Education Centers (ROCs)

Secondary vocational education is mainly offered as initial education by Regional Training Centers. About 50 of these are in the Netherlands, originally with their own working area. Almost every ROC has several branches. As a result, the total number of branches is several hundred.

Due to the increasing mobility of students, competition between the ROCs is increasing. There is also such a great diversity of courses that not every ROC can offer all courses. The courses with many students are given at almost every ROC.

Relevant to our Co4Health project are the training courses that fall within the Technology and Built Environment sector. This sector includes the following components, which are called market segments:

- Metal and metal electrical, 44 courses with 5,256 graduates in the 2021/22 school year
- Construction and specialized contracting 36 courses with 3,504 graduates in the 2021/22 school year
- Infrastructure, 35 courses with 1,732 graduates in the 2021/22 school year
- Technical installations and systems 31 courses with 4630 graduates in the 2021/22 school year
- Dismantling and maintenance of 21 courses with 1,228 graduates in the 2021/22 school year
- Wood and furniture 13 courses with 1287 graduates in the 2021/22 school year

7 Development of qualifications, what should a graduate know and be able to do

SBB's task is to determine the training requirements of what a starting professional must know and be able to do. Employers and industries submit their wish lists for many qualifications. Some professions, such as accountants and secretaries, are not organized into industries. A professional profile must then be created through research and questionnaires. In consultation with the ROCs, which must translate these qualifications into training programs, this ultimately leads to an overview of what can be expected of a starting professional. By its nature, everything is temporary. Every course is reviewed every four years. Interim changes to the qualification file appear to be difficult in practice.

It is easier to adjust the content of an optional part. As the name suggests, an elective is a part of the course that the student can choose. In practice, it appears that some ROCs make some of the

optional components mandatory for organizational or substantive reasons. In both cases, the optional component no longer meets the original objective.

During visits to (prospective) training companies, developments are sometimes identified that need to be taken into account during the training. This may involve the introduction of new working methods, different use of digital tools and the use of artificial intelligence. These developments may lead to adjustments to the training program of the signaling ROC.

Although the intention is that the MBO graduate is ready for the labour market, it is sometimes necessary for him to complete additional training. An example is the VCA (Safety Checklist for Contractors) certificate, which must almost always be in possession of anyone entering a construction site.

8 Internships in MBO

All MBO courses have an internship obligation. For students who attend school full-time, the internship duration is 20 to 60% of the training time. An internship, as part of the training, can only be completed at a recognized training company. Recognition as a training company is issued by SBB. For recognition, it is examined whether the activities associated with the training can be sufficiently practiced, whether the trainee can be sufficiently supervised and whether the working conditions meet the standards.

A company can have various reasons for bringing in an intern. Consider:

- A flexible reinforcement of the team
- A student has applied for a job
- Promote the company's social involvement
- Enjoy tax benefits
- Investing in future staff
- A fresh wind of knowledge and ideas
- Pick up tasks that have been left behind for too long
- Stay informed of developments in education

For many companies, temporary expansion of the team and investing in future staff are currently the most important reasons for applying for recognition as a training company.

For recognition as a training company, it is first and foremost important that safety in the workplace is guaranteed. You will be asked about the presence of:

- personal protective equipment
- a risk inventory and evaluation
- suitable workplace and equipment, appropriate for the training for which recognition is requested
- a company emergency response officer
- a confidential counselor
- security
- code of conduct

Of course, there must be time, space and resources to guide the intern. We now see that in some sectors, such as healthcare, the workload at some business units is so high that there is no opportunity to provide an intern with the right guidance.

It is important that there is a practical trainer who supervises the trainee. This is not an institute or a mirage, but an employee who works close to the intern and takes the intern under his/her wing. The practical trainer must not only know enough about the field, he must also be aware of the trainee's learning objectives and he must be able to assess whether and to what extent the trainee has achieved these learning objectives.

Recognition as a training company is necessary for both students who attend school full-time, the Vocational Training Course (BOL), and for students who are employed part-time by the company and perform the tasks required by the training at their workplace, the Vocational Guidance Learning Path (BBL). Sometimes it is not possible to practice all activities in the training company. Then it is necessary to provide the opportunity at school to gain the necessary experience.

The recognition as a training company is issued after a visit by an SBB employee. The recognition has a term of four years, but can also be terminated prematurely, for example if the specified practical trainer no longer works in the company and there is no successor. Complaints can also lead to an investigation that may result in the withdrawal of recognition. SBB offers all kinds of online and physical training courses to equip practical trainers for their task. Most of these training courses are not mandatory but are recommended.

9 Direction of the development of internships in MBO in the Netherlands

A certain pendulum movement is visible around the importance of internships in MBO. There are companies that claim that it is sufficient for them that their young employees can speak sufficient Dutch and have a good motivation and work attitude. They learn the trade in practice. There are other companies that expect a qualified school leaver to fully participate after a short training period.

There are training courses where the qualified school leaver can fully participate after a short training period, but there are quite a few training courses, especially at level 4, that require the company to spend a considerable training period before the new employee is productive. The connection between the training and the specific company can therefore vary greatly. Generally speaking, we are now in the situation where the world of work values school leavers who are immediately employable. This means that the importance of the internship is greater than in a period when the business community only needs a good basic attitude.

A development that seems to be at odds with this is the need of the business community to reduce the number of training courses. This means that the distance between the content of the training and the practice on the work floor of a specific company increases.

In the procedure for recognizing and supervising training companies, there is a tendency that fewer company visits are required and that more is arranged online and by telephone. This results in savings for SBB and for the training company, but the quality of the recognition procedure may deteriorate.

10 Progression from MBO to levels 5 and 6

A level 4 graduate has access to higher vocational education in the Netherlands. In concrete terms, this is the Associate degree at level 5 and the Bachelor at level 6. Both levels are provided in the Netherlands by higher education and not by secondary vocational education. The Associate degree has existed in the Netherlands since 2006 and is much less established than the Bachelor, which has been around for 40 years.

The advantage of the Associate degree, however, is that it is a two-year course that leads to a recognized diploma and usually offers the opportunity to obtain a Bachelor's degree in another two years. As a result, we are now seeing an increase in the number of registrations for the Associate degree compared to the Bachelor. The step to higher education is taken immediately after obtaining the MBO diploma or after several years of work experience. The various Ad programs are in line with this.