Chapter 20
The Training Module Concept: A Way Towards Quality Improvement and Inclusion in German Vocational Education and Training (VET)?

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Abstract VET in Germany is based on a dual system (learning in vocational schools and companies) within regulated training occupations. It leads to a professional degree in the respective training occupation that is recognized countrywide. Traditionally, dual VET does not have a modularized structure. The German Federal Institute for Vocational Education and Training (BIBB) has recently developed competence-oriented training modules ("Ausbildungsbausteine") for selected training occupations. These training modules have the aim of making learning outcomes more transparent and comparable, and of increasing the quality of qualification measures in prevocational training. The latter aims at easing transitions from these measures into regular (dual) VET. The traning modules have been implemented in selected regions and qualification measures within JOBSTARTER CONNECT, a pilot programme funded by the Federal Government and the European Social Fund (ESF). This article summarizes the main findings of the external evaluation of the programme.

1 Introduction

VET in Germany is traditionally based on the so-called dual system (learning in vocational schools and companies) and is provided in the form of apprenticeships based on regulated training occupations. Currently, 327 training occupations (BIBB 2014, p. 9) are available, which are created and modernised in a standardized process involving social partners and other stakeholders (CEDEFOP 2012a for a more detailed description of the German VET system and its current challenges). Traditionally, VET leading to a recognized degree in one of these occupations lasts

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two to three and a half years and does not have a modularized structure. While there are indications about when and how long certain competences shall be trained and acquired in the respective training ordinances, they are no self-contained units and modules. Competence assessment normally takes place twice, once as a mid-term examination (after one to two years of training), once as a final examination at the end of VET. An official certificate is only issued once, namely after the successful participation in the final examination.

In addition to the regular system of VET there is a wide array of pre-vocational training formats. These are offered for school-leavers who do not find an apprenticeship after having obtained a school degree.[1] Provision of training for unsuccessful apprenticeship seekers is a phenomenon that varies in its size and scope, mainly depending on labour market and demographic developments (Neumann 2012). However, it is substantial in size. In 2011, 28 % of school leavers interested in VET entered some form of pre-vocational training (DESTATIS 2013).

During the years preceding the implementation of training modules, researchers and practitioners have criticized both the regular VET system and the system of pre-vocational training (Ekert 2013, p. 91). Criticism of the former has been due to the system's missing flexibility, e.g. the lack of options for switching from one training occupation to another or to complete VET after a period of work or other activities. The regular VET system has also been criticised for its inability to recognize prior qualifications obtained elsewhere.

The system of pre-vocational training has been criticised because participants of pre-vocational training normally have to undergo a full vocational training afterwards even though they have done occupation-related pre-vocational training or obtained practical work experience. This, in turn, is sometimes attributed to the fact that the contents taught in pre-vocational training are only remotely related to the contents of the regulated training occupations. The system has even been called a 'waiting loop' because many disadvantaged young person undergo several forms of pre-vocational training without necessarily improving their chances on the apprenticeship market (Ulrich 2008).

A system in which a regulated training occupation is structured by a number of self-contained, competence-oriented and certifiable modules which together represent the entirety of the respective training occupation, so the expectation of its advocates, could help solving both problems. It could help documenting partial qualifications of persons without a complete vocational degree and thus make it easier for these persons to complete their vocational training and obtain a full degree (OECD 2010, p. 27). Moreover, it could support transition from pre-vocational training into regular VET by better documenting competences acquired in pre-vocational training and by supporting a closer link between the contents of pre-vocational education and regular VET. Finally, advocates of modularisation expect that the definition of clearly defined and competence-oriented modules can increase

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[1] Some of them are not able to start an apprenticeship altogether. Others cannot start an apprenticeship because the available (yet limited) spots are already distributed among better qualified school-leavers.

the quality of VET and pre-vocational training due to a clearer definition of the learning outcomes to be achieved in a certain phase of training and their relation to real work processes (Ekert 2013, pp. 88–97). However, as we discuss in more detail below, training modules have also been subject to substantial, and sometimes fierce, criticism.

To examine the potential benefits of training modules, the BIBB has developed competence-oriented training modules ("Ausbildungsbausteine") for 14 training occupations. Modules for further training occupations are in the process of being developed.[2]

The developed training modules have been implemented in selected regions and qualification measures within JOBSTARTER CONNECT, a pilot programme funded by the Federal Government and the ESF. Within the programme, 40 projects have been active, the first starting in 2009. The programme has been evaluated externally.

This article summarises the debate about training modules and their potential benefit for the German VET system and some results of the evaluation. It is structured as follows: the next subsection explains the concept of training modules in more detail and provides some information about the arguments of proponents and opponents of modularisation. After that, we present some results from the external evaluation of JOBSTARTER CONNECT that can inform researchers and practitioners interested in designing or implementing modularized concepts in VET.

2   The Training Modules Concept

As mentioned before, the German VET system is traditionally based on a system closely following the occupational principle, i.e. a VET degree is earned if a dual apprenticeship is successfully completed. As mentioned above, this system was criticised both by practitioners and researchers.

The main starting point for the development of a broader approach towards developing training modules was the already mentioned report by Euler and Severing (2006), two renamed VET experts in Germany, who recommended the development and implementation of training modules with the aim to improve the permeability of the VET system. One of the key characteristics of their proposal was to develop modules that do not create a new system of vocational degrees, but rather take the existing training occupations as a basis.

The idea by Euler and Severing was taken up both by policy makers and VET experts as well as researchers. An intense debate about the pros and cons of training modules has taken place over the last years. This discussion must be seen in the context of the German VET system where the regulated training occupations are a

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[2] "Ausbildungsbausteine" are not the first modularization concept that is examined in Germany. However, their development and piloting is more ample and systematic than previous, often regional, attempts.

constitutive element (Berufskonzept). Training occupations are often considered as an important element of quality assurance and as an instrument enabling apprentices to internalise an occupational identity (Pilz 2012 for a discussion of these elements). Many researchers and practitioners were reluctant to introduce a concept that – in their opinion – could undermine this well-established system and create a parallel system of partial qualifications. It must be stressed, however, that different authors have interpreted modularisation quite differently. While supporters stress that training modules are not aimed at replacing traditional VET and regulated training occupations but rather at modernising the system and increasing permeability between sub-systems and transparency of learning outcomes, others consider training modules as the first step towards an entirely modularised VET system undermining the incentive to complete a full apprenticeship, using micro-modules that are oriented towards the specific needs of individual training companies instead of the interests of the learner (Pilz 2005, 2009; Thelen and Busemeyer 2012 for summaries of this debate).

Of course, the debate was also influenced by developments on the international, especially the European level. In this context the concept of learning outcomes matters. As documented in CEDEFOP 2012b, developing training modules is seen as a way towards implementing the learning outcomes approach in several European countries. Finally, training modules are obviously well suited to support related efforts to implement a European credit system for vocational education and training (ECVET) in order to increase mobility and permeability of different parts of the VET systems in Europe.

Parallel to the on-going controversy, the "Innovation Circle on Vocational Education and Training", an expert body instituted by the German Federal Ministry of Education and Research (BMBF), has recommended the piloting of training modules in a 2007 decision (BMBF 2007). In cooperation with social partners, 14 training occupations in different sectors were chosen to be part of the pilot initiative. The chosen training occupations represent a substantial part of VET in Germany since some of these occupations are among the most popular. Ekert (2013) estimates that the 14 occupations represent roughly one fourth of dual VET in Germany in terms of the number of apprenticeships. However, it was not planned to change VET in these occupations towards a modularized structure entirely. Rather, only in selected programmes and qualification measures, training modules have been implemented (see below).

The development of modules for these occupations was overseen by the BIBB. Guidelines for their development were (among others) the following (Frank and Grunwald 2008):

- Training modules must be developed among regulations for existing training occupations.
- Training modules must follow the "occupational principle", i.e. a certification of single modules instead of the whole vocational training in a training occupation shall not occur; modules are rather instruments to structure the vocational training and define self-contained entities in a pedagogic meaning.
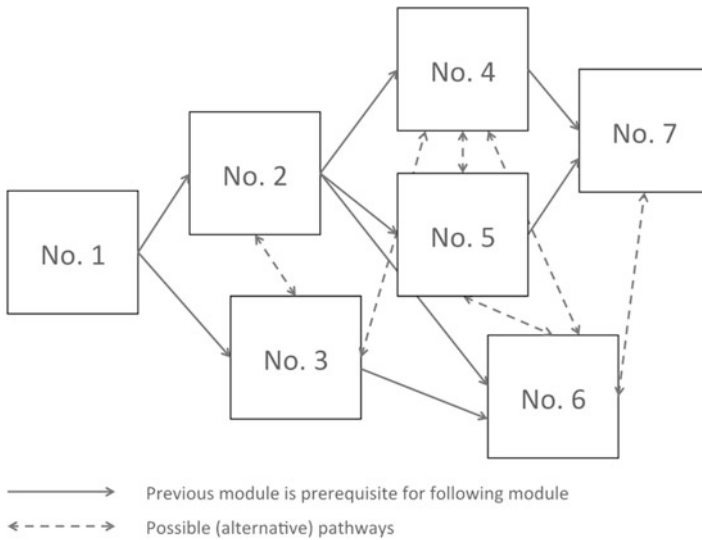
Fig. 20.1 Trajectory in a modularized training occupation (Source: author's own compilation based on BMBF 2008b, p. 9)

- Training modules must be based on learning outcomes, i.e. they describe the competencies to be acquired and not the input in terms of what a person studies or what is taught.
- Training modules must reflect the model of complete action and follow the principle of professional acting competency, i.e. they must describe realistic and typical processes in the respective training occupation and define learning outcomes in relation to these processes. Moreover, the described processes must be similar to those described in the regulation of the underlying training occupation.

The concept is aligned with the definition of competency in the learning field concept of the German Conference of the Ministers of Education and Cultural Affairs (KMK) (KMK 2007; Ekert et al. 2012). Competencies are defined to be the potential of a person to deal with the objective, social and personal requirements within the fields of work of an occupation.The developed modules for 14 training occupations were, despite their adherence to the aforementioned guidelines, rather heterogeneous across training occupations. Their length varies between eight weeks and one year. There are occupations split up in no more than four (all mandatory) modules, in others there are up to 25, many of them being optional. Accordingly, the scope of competencies to be acquired in one module is rather heterogeneous. This heterogeneity may be attributed to the fact that the definition of modules has been happening in a process involving social partners, with different institutions (unions as well as employers associations) having different views about modularization and approaches in VET generally.

One commonality of all sets of training modules is that they permit different trajectories. Figure 20.1 shows that in this exemplary training occupation

(Anlagenmechaniker/plant mechanic) it is mandatory to start with module 1, which is the case in all modularised occupations. After that, different trajectories are possible, but some modules must be completed before others can begin (Fig. 20.1). In the shown occupation, there are no optional modules, so all modules have to be completed before a final examination can take place. The duration of all modules together is equal to the duration of the regular duration of an apprenticeship in the training occupation, which is the case for all 14 modularised training occupations.

According to the guidelines excluding formal certification of modules, recommendations for competence assessment and documentation at the end of each module are intentionally missing. The BMBF only recommends that:

> After a person has completed a training module, the acquired competencies and learning outcomes shall be documented in a suitable manner. (BMBF 2008a, 'authors' own translation')

3   The Pilot Programme JOBSTARTER CONNECT

In order to obtain practical experience and derive recommendations for the future use of training modules, the pilot programme JOBSTARTER CONNECT has been launched in 2008, funded by BMBF together with the ESF and implemented and supervised by BIBB. Institutions in the field of adult education (such as vocational schools, private for-profit and non-profit education providers in the field of pre-vocational training, etc.) could receive funding for a maximum duration of 5 years in order to implement training modules in their qualifications. The goal of the programme according to the funding authority, BMBF (BMBF 2008a, 2009), was to:

- Improve the transition of young persons who have been unsuccessfully seeking an apprenticeship into regular (dual) VET,
- Generally increase the permeability between different parts of the VET system,
- Increase the orientation of extra-company training towards regular (dual) training occupations,
- Improve the recognition of prior learning for regular VET and to improve pathways for obtaining a vocational degree in stepwise qualification procedures.

In the second round of funding, another goal was added, namely to:

- Define and document the competencies relevant for vocational education.

The latter was a direct result from the fact that without any specified guidelines for competence assessment, the methods employed by projects varied widely in their scope and validity. Apart from these (rather general) guidelines, little rules or guidelines were provided in terms of how the piloting shall be implemented.

Altogether, 40 projects were funded since 2009 in the following fields of action:

- Qualification of young persons who were unsuccessfully seeking vocational training for more than 12 months,
- Qualification of disadvantaged young persons at the link between special pre-vocational education and regular VET,
- School-based vocational education in different short- and full-time programmes,
- Second-chance qualification for semi-skilled and unskilled workers.

In most projects, one of the primary aims was to integrate participants into regular (dual) VET after some months of extra-company VET or pre-vocational training.

Most of the projects aimed at implementing the training modules concept within qualification programmes that involve several partners, such as companies, vocational education providers and vocational schools. Most projects have concentrated on selected occupations or selected pre-vocational training or VET formats.

4 Results from the External Evaluation

Since the main aim of the programme was to gather experiences with training modules, accompanying research and monitoring were implemented. This was carried out by BIBB. An external evaluation carried out, among others, by the authors of this paper, has been operative between 2010 and 2014. This paper draws primarily on findings from this evaluation.[3]

The main goal of the evaluation was to assess whether the programme goals stated in the previous section have been reached and why this has (not) happened.

4.1 Methodology of the Evaluation

The external evaluation was an integral part of BIBB's concept for structuring and systematizing the results from the piloting. The evaluation was carried out by InterVal, a private research and consulting company with no links to either BIBB or the funding ministry BMBF. It has used a mix of quantitative and qualitative methods. Its character has been formative and, to an increasing degree over time, summative. The formative part involved discussing preliminary findings with both BIBB and the individual projects and in conducting several formative workshops. In the workshops, different topics such as methods for valid competence assessment, were discussed between the evaluation and the project. Evaluators have taken the role of facilitators in the workshops instead of giving clear recommendations,

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[3] This paper can only provide a small selection of the evaluation's findings. For more reports, the interested reader is referred to www.interval-berlin.de, where the relevant reports (see the overview in Ekert and Grebe 2014) can be found.

because the open character of the programme could be best supported by such an approach. The external evaluation builds on

- An analysis of the monitoring data gathered throughout the piloting documenting qualification processes and transitions after participating in modularized training for 4,362 participants,
- Case studies in 36 of the 40 projects, some of them repeated in order to analyse sustainability of the use of training modules,
- Surveys among training participants, education providers, schools and involved companies, some of them repeated,
- Analysis of the literature on modularization concepts in vocational education and interviews with VET experts,
- Results from discussions with projects and VET experts during the workshops.

As can be seen from the sources, the evaluation can draw from qualitative and quantitative findings from several sources, allowing it to compare different views on single phenomena (triangulation). For more details on the methodology (Ekert and Grebe 2014).

4.2   Results from the Implementation Analysis

The following results have been derived from case studies and surveys among education providers and companies that have, either directly or indirectly, participated in the programme.

As mentioned before, 40 projects have been supported within the programme. The project managing institutions were primarily private education providers, but also business and crafts chambers and some public authorities. In all cases, these institutions were the nucleus of a regional network of schools, companies and other education providers that were willing to take part in the piloting.

The implementation of training modules has been found to be very heterogeneous across education providers and training formats. Some education providers have implemented a modularised structure in many of their qualification measures, others have taken part in the piloting only with selected courses or qualifications. The training formats, all of which are normally publicly financed, can be differentiated into three categories:

- Pre-vocational training, taking part either in the form of school-based training or firm-based training or in a format involving education providers and firms. This format is aimed at preparing for vocational training while achieving a first occupation-related qualification. These formats are primarily aimed at school-leavers that are not deemed ready for dual VET because of individual problems or lack of certain competencies. Many pre-vocational training formats have a duration of up to one year.

Table 20.1 Number of participants in JOBSTARTER CONNECT

Pre-vocational training	Assisted vocational training	Second-chance qualification
2249	1616	497

Source: author's own compilation

- Assisted vocational training, taking part either in the form of school-based training, company-based training with accompaniment by an education provider or in programmes combining extra-company training by an education provider with internships in a company. These formats are aimed at different target groups, especially young persons that have been unable to find a dual apprenticeship or have other problems requiring assistance during VET. The maximum duration of these programmes varies, depending on the training occupation, between two and three years. Some of the programmes aim at a transition into dual VET after some months of participation.
- Second-chance vocational training, aimed at adults without a formal vocational degree. This format leads either to a partial qualification that supports these adults in re-entering the labour market or to a full vocational degree. Their duration varies between some months and two years.

All of these training formats have in common that participants normally do not assign themselves to a qualification measure. Their participation is normally result of some counselling provided by the Federal Employment Agency, the secondary schools (especially when participants are school leavers) or other public institutions. The cost of participation is normally borne by either the Federal Employment Agency or some other public authority in charge of supporting labour market integration.

Within JOBSTARTER CONNECT, the first type (pre-vocational training) has been implemented most frequently, followed by vocational education and second-chance qualification. Table 20.1 shows the respective numbers of participants over the course of the evaluation monitoring.

The described formats are not directly equivalent to the fields of action within the programme that are listed above. This is due to the fact that the description of fields of action mixes target groups (such as person's unsuccessfully seeking vocational training for more than 12 months) with types of qualifications (such as school-based vocational education). However, the description of programme results by the types of qualifications as listed before has proved to be useful because of some specific challenges in each of the types.

A second, and almost equally important way to structure the different environments in which piloting has been done, is the institutions in which the training takes place. Broadly, there are formats where companies play the major role (even if training in the company is accompanied by some education provider that helps the participant and the firm design suitable training and resolve difficulties), others where public schools are central, and others where (mostly private) education providers are in charge of the qualification process. The fact that schools and education providers are often the main institutions responsible for the implementation of the

training process does not mean that companies are not involved at all. In 83 % of the qualifications in JOBSTARTER CONNECT, some training in companies has been part of the curriculum – however, the scope of this in-company training varies widely, between several months and short internships of only a couple of weeks. More generally, almost all of the 40 pilot projects have faced the challenge to coordinate the implementation of training modules in different learning environments. Almost all qualification formats involve different institutions in the qualification process.

All types of qualifications in JOBSTARTER CONNECT have in common that they are aimed at persons disadvantaged on the labour market. Based on some socio-demographic indicators, it can be concluded that the programme has been generally successful in reaching these target groups. Among other results, it has been shown in the evaluation that:

- More than 11 % of programme participants had not acquired a secondary school degree at the beginning of their modularized training, compared to two percent among all VET participants when they start their training.
- Approximately 64 % of participants had only the lowest available secondary school degree and only 24 % had some higher degree, compared to 29 % and 68 %, respectively, among VET beginners in general.[4]

However, it must be mentioned that these characteristics are not unique to modularised training; they are rather due to the training formats that have been modularised. For instance, no substantial differences could be found between the characteristics of participants in non-modularized pre-vocational training and pre-vocational training within JOBSTARTER CONNECT.

The characteristics of the participants are an important factor for the implementation, because education providers, schools and companies did not only have to master the task of implementing a new curricular and pedagogic instrument. They also had to face the challenge of implementing training modules in qualification formats with a group of participants where certain social problems are more frequent than in regular VET.

Nonetheless, the experience of the 40 pilot projects has been more frequently positive than negative, although implementing training modules often means changing curricula, teaching methods and organisation of qualification measures. Substantial challenges have been encountered, but often overcome during the piloting. A successful implementation was found to be highly dependent on the framework conditions. The main conclusions from the implementation analysis can be summarized as follows:

- Implementing training modules in pre-vocational or vocational training offered by education providers can be successful if and only if the concept of training modules is accepted by the trainers and by the management of the education

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[4] Comparison values for all VET participants have been taken from the official statistics available at www.bibb.de/dazubi and refer to 2013.

provider. Moreover, the concept of competence-orientation in vocational training must be understood and implemented (it is not a new concept but in many cases it has not been systematically implemented). This has been the case in most projects and is the reason for the finding that implementation has been particularly thorough in cases where education providers are responsible for the entire qualification process and where most of the training actually happens under the authority of an education provider without substantial involvement of companies and public schools. The reason for the relatively high motivation among training providers is not only that they could receive a grant within JOBSTARTER CONNECT. There has also been intrinsic motivation stemming from the aim of following recent trends in pedagogy. There was also extrinsic motivation due to the pressure (exerted by regional politicians, the employment agencies and other institutions) to constantly improve and modernize qualification programmes.

- Some of the pre-vocational training formats in Germany are based entirely or to a large part on training within companies (such as the so-called Entry Qualification (EQ) a programme that mainly consists of subsidised long-term internships for disadvantaged school leavers in private companies). EQ and similar formats (especially within the piloting) normally involve some role of an education provider but this role is limited, often to socio-pedagogic support of the participants. Projects within JOBSTARTER CONNECT implemented by these education providers have faced the major challenge of convincing companies, often small and medium-sized enterprises (SMEs), about the usefulness of a new curricular concept. This has proved difficult especially because trainers in SMEs normally do not have a pedagogic qualification. They are experts in the craft or the trade they teach apprentices, but they are normally not familiar with pedagogic concepts like outcome orientation. This has led to general skepticism, aggravated by the fact that modularization involves a more *precise* planning of the qualification process, making it difficult to teach certain things "when they arise", e.g. due to a customer order or an assignment. The evaluation has also found that, even in cases where companies had agreed to participate, the implementation of training modules has often been less rigorous than in training implemented by education providers.
- The success in implementing training modules in vocational schools[5] has been largely dependent on the role of the schools. In cases where school supervising authorities have been the drivers of applying for funding within JOBSTARTER CONNECT, implementation has often been more successful than in constellations without political support. However, even in successful projects, there has been substantial reluctance and, sometimes, open resistance. In the qualitative

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[5] In Germany, vocational schools are specialized institutions that normally provide the school-based training within traditional (dual) VET. They also frequently offer state-sponsored programmes in the fields of pre-vocational training or cooperate with education providers to provide extra-company VET. In Germany's federal structure, vocational schools are subject to legislature of the 16 states, creating (especially outside of federally regulated dual VET) a very heterogeneous landscape of qualification programmes offered.

interviews within the evaluation, it could be found that teachers and school managers were often opposed to a modularized structure and principles like outcome orientation because they doubted that such pedagogic principles were suitable for the target group of their qualification programmes. Others, however, embraced the idea and concluded that creating more realistic and work-based tasks can even improve motivation and performance of students.

• In cases where vocational schools or the school-supervising authorities have not been the drivers of the piloting but where vocational schools have rather been approached by education providers taking part in the programme, success has been limited. Often, school principals claimed that participation was not possible because a modularized structure was at odds with other rules and regulations they had to follow and for which they were not responsible. Within the evaluation, it could not always be determined whether these objections were based on real legal difficulties or rather due to reluctance towards the concept.

The results and experiences of the pilot projects do not only vary between the types of implementing institutions (as described before), but also on the type of training, in which modules have been implemented. Specific problems arise when training modules are implemented in types of training that have a length of one year or less:

• Implementing training modules in pre-vocational training can only be successful if the length of the training module(s) to be used is substantially lower than the length of the training. This is because pre-vocational training often involves other steps than teaching occupation-related topics. For example, participants get support in choosing a suitable occupation, obtaining a general school degree or receive training in writing job applications. Moreover, participants of pre-vocational training often have problems in mastering basic competencies. This means that sometimes, more than the regular duration of a training module would be required to teach it thoroughly. Some training modules have a length of one year, which is therefore incompatible with pre-vocational training.
• Similar limitations apply to second-chance qualification. Larger training modules are often not well suited to the training needs of participants who need training in very specific areas that are not well captured by the (larger) modules.

Problems that relate to specific target groups and their training needs as well as the training formats designed for them do not mean that the training modules concept is not suitable for disadvantaged groups on the labour market. It only shows that the duration of the modules and the individual support provided to participants must be adapted to their requirements.

4.3   Results on Competence Assessment and Documentation

One of the main motivators for implementing training modules is to ease transition from extra-company pre-vocational and assisted vocational training into regular (dual) VET by making competencies acquired more transparent. Of course, this

requires some documentation of the competencies acquired during modularized training. This, in turn, raises the question how these competencies shall assessed in order to provide valid results. Within and around the programme JOBSTARTER CONNECT, there has been substantial debate about what this requirement implies. This debate was partly due to the above mentioned fact that the programme itself has not provided any guidelines on how to assess and document acquired competencies at the end of a training module.

Some of the projects, especially in the early stages of the programme, have issued certificates to their participants describing the outcomes of the respective training modules and the fact that the participant has gone through that training while refraining from documenting their competence assessment procedure. Others have referred to ongoing competence assessment during the qualification process without precisely describing their methods.

Many projects in the later stages of the programme have formulated a need to set standards for competence assessment after each module, especially in order to increase validity (and thus recognition) of modules certificates. One group of projects has derived written standards for competence assessment that have been subsequently put to test by most projects (Dymel 2013 for a description of these standards). The main points in these standards are:

- Competence assessment should be implemented at the end of each training module and should follow a standardized procedure in order to ensure comparability.
- Different types of tasks and exercises such as discussions, role play, and simulated work tasks should be used. They should be as realistic as possible and close to tasks in real work environments. The guiding principle should be to design complex action situations related to a case-oriented task. Problems and questions are furthermore to be designed among the principle of complete action, that is they shall not require knowledge of only specific, theoretical or partial aspect but shall rather test the competency to act in a complex situation, i.e. to solve the problem independently and creatively.
- At least two persons should implement competence assessment, at least one of whom should be a certified vocational trainer.
- The documentation of each training module and all issued certificates should list the criteria and principles that are used in the competence assessment as well as their weighting and the respective minimum thresholds for passing.

All projects have been asked to test the implementation of these rules during the final year of the evaluation. The results have been inconclusive. Most projects have reported positive experiences from the implementation itself. The effect of adhering to the standards, however, could not be measured because implementation of these rules has happened rather late in the process of piloting. Also, as we discuss later, modules certificates are unknown to many companies at present, making it obvious that the standards in competence assessment must be explained to companies individually if they shall have an effect. Another problem is that competence assessment is often carried out by personnel of the education provider also implementing the

modularised training. This may reduce uniformity of requirements and external validity. We must therefore conclude that more research is needed in order to assess the impact of more rigorous competence assessment, although one may find the above mentioned criteria intuitively appealing.

4.4 Results on Transitions into VET and Work, Completion of Vocational Degrees

Derived from the main problems in the pre-vocational system and in VET in general (as described at the beginning of the chapter), there are important criteria for judging the training modules' possible effect on the programme participants. First, a modularized structure should improve motivation and establish a feedback culture, giving participants more control of their qualification process and thus empower them for further steps. Second, occupation-related qualifications must be imparted and properly documented so that they improve transition rates from modularized qualifications to regular (dual) VET or into work.

The evaluation has produced encouraging data on the first point. In qualitative interviews as well as in a standardized survey among 676 programme participants, aspects like provision of regular feedback, a culture permitting mistakes, and the existence of an environment where one learns to work independently and freely have been praised. For assisted vocational training within JOBSTARTER CONNECT, the results can be compared to those from a survey using the same questions among participants of non-modularized assisted and regular VET in some categories (Ekert et al. 2014, pp. 57–59). It can be shown that in some categories, programme participants' ratings are significantly more positive.

Concerning the second effect, and especially transition rates, results are less clear. First, it should be reported that in almost all projects, acquired modules were documented, describing the acquired competencies and clearly stating the module and the relating training occupation. However, surveys among projects have often shown that firms in the region are not aware of what the concept of training modules is and what certified modules exactly mean. This is partly due to the concept being new, but also to the fact that modules are certified by the education providers themselves, and not by an external institutions like a business or crafts chamber, as is the case in regular VET.

Second, transition rates in pre-vocational training and assisted vocational training vary between training formats. For example, two of the rather popular formats, the EQ and the Prevocational Education Scheme (BvB) have been known to yield quite different rates of transition into regular VET after participation. Therefore, to assess the possible effects of module certificates one has to compare transition rates of the modularized format to the non-modularized format of, say, EQ or BvB.

To do this, sufficient numbers of participants are needed as well as data on transition rates both within JOBSTARTER CONNECT and outside of it. This is only the

Table 20.2 Transition rates in- and outside of the programme

| Qualification format | Transition rates for programme participants | | Transition rates into dual VET outside of the programme (%) |
	Transition rate into dual VET for all participants (%)	Transition rate into dual VET for participants with known transition (%)	
BvB (N = 694 in the programme)	36	45	34–35
EQ (N = 446 in the programme)	58	70	56–60

Source: author's own compilation based on Ekert and Grebe 2014, p. 54

case for the two aforementioned formats of pre-vocational education and not for other formats that have been included in the piloting. The results for non-modularized BvB and EQ could both be taken from a single study analysing these measures, which improves comparability (Popp et al. 2012). The results are shown in Table 20.2. They indicate that positive effects of modularized qualifications seem likely (among those with a known transition, the rates or integration into regular VET are larger than outside JOBSTARTER CONNECT), but cannot be proven beyond doubt due to a large share of unknown transitions. Additionally, two factors impede comparability:

- The form of measurement is different between JOBSTARTER CONNECT and other programmes. Results in JOBSTARTER CONNECT are derived using polls of former participants done by participating education providers, other evaluations (such as EQ and BvB) have used telephone interviews some months after the end of participation, implemented by the evaluation.
- The rate of participants with unknown transition is large in JOBSTARTER CONNECT. This also holds for other programmes as well but the exact rate of unknown transitions is not known for many evaluations – technically, only a small share of former participants are called for the poll and there are large shares of persons who do not respond.
- For the case of EQ, one must also note that within JOBSTARTER CONNECT, all EQs have been assisted (by an education provider) while outside of it, not all EQ are. This may have led to a more intense coaching of participants compared to EQ participants outside of the programme.

When transition into regular (dual) VET happens, the question arises whether certified training modules lead to an increased rate of recognition of prior learning, in the form that VET is shortened compared to its regular duration. Such a shortening is not unusual in German VET if prior qualifications or higher school degrees justify it. Especially in the case of EQ, recognition rates can be compared between modularized EQ within the programme and data on EQ in general. It was found that rates of recognition are indeed substantially higher after modularised VET (37 percent instead of 23 percent). Although an effect of modularisation seems likely here, the same remarks as above apply.

Besides the main aim of transition into regular (dual) VET it must also be considered a success if participants of modularized qualification acquire all necessary modules to obtain a full vocational degree without prior transition into dual VET. This has been the case for 13.7 % of the participants, with especially high rates in assisted VET (up to 65 %). Unfortunately, these rates cannot be compared to assist VET outside of the programme because to the best of our knowledge, no data is available.

Finally, one of the main concerns of opponents of modularization is that participants go to work with their partial qualifications instead of continuing training towards a full vocational degree. We find no evidence for such an effect. Only five percent of participants who have successfully obtained at least one module certificate have made a transition into work after their qualification. Unfortunately, no data is available about the nature of work which participants have taken up. But altogether, his is not an alarmingly high rate in comparison to data from other evaluations (the rate is eight to nine percent in EQ and seven to eight percent in BvB; for other formats, no data is available). It must also be considered that transition into work is a normal and encouraged transition in second-chance qualification where besides the completion of a vocational degree the re-integration into work is one of the primary goals.

5 Conclusion

It could be observed that the aims of increasing the quality of pre-vocational training by making it more outcome- and work-oriented and by linking the contents of pre-vocational training more closely to the contents of regular VET, can be achieved. The same is true for the general goal of making learning outcomes more transparent. In many cases, the implementation of training modules has triggered and supported such improvements. However, such results could be observed only in settings where the training modules concept was accepted by the training staff and where implementation was actively supported by the project managing institution. In these settings, curricula have often been changed substantially and new didactic principles have been applied. The requirement of assessing competencies at the end of each module has improved feedback loops between trainers and participants. More generally, training modules are well aligned with the move towards making learning outcomes more transparent on the European level (as manifested in the European Qualifications Framework (EQF) and ECVET).

It was also found, however, that more work-oriented pre-vocational qualification, increased transparency of learning outcomes and improved comparability between contents of pre-vocational training and extra company VET to regular (dual) VET do not automatically lead to improved transition rates from pre-vocational training into regular VET or from extra-company training to dual VET. However, these findings must be considered preliminary due to the low number of observations on which they are based and the often found lack of comparative data from non-

modularized qualifications. It can be concluded from qualitative evidence that one factor impeding transitions and leading to the low level of recognition of certified training modules is that they have not attained a sufficient systematic relevance, including awareness by companies and business associations as well as training providers, vocational schools and other relevant institutions.

We can finally provide preliminary evidence that one concern among critics of the concept may not be justified. Several researchers had voiced concern that implementing a modular structure in German VET could increase the number of persons who seek work without a formal vocational degree, using the training modules certificates as proof of their competencies. We neither find alarmingly high rates of transition from modularized qualifications into work nor do we observe a high rate of participants in modular VET who actively seek work before the completion of their regular vocational degree ('drop outs').

However, the debate will continue and further (empirical) research will be needed. Our findings about transition rates and drop outs must be seen in the context of the preliminary nature of training modules and their non-official status. Whether an official system of training modules would be able to improve transition rates from pre-vocational training into VET and whether it may lead to a higher number of drop-outs from regular VET or pre-vocational training, as some critics suggest, is an unanswered question. Our findings suggest, however, that by closely linking training modules to the underlying training occupations (thus keeping the occupational principle intact) and by implementing training modules primarily in pre-vocational and extra-company training, the possible pitfalls may be smaller than the benefits of increased transparency and permeability between different parts of the VET system.

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