



Quality indicators for assisting VET in new learning arrangements

Contribution to the ECER 2004 conference, Crete, Greece, September 22-25.

Thomas Lans¹, Renate Wesselink, Harm Biemans and Martin Mulder.

CONCEPT, version 4.0

¹Wageningen University

Social Sciences Group

Education & Competence Studies

P.O. Box 8130

6700 EW Wageningen

the Netherlands

[t] +31 317 48 43 43

[f] +31 317 48 45 73

[e] thomas.lans@wur.nl

Introduction

There seems to be a major gap between the learning needs and preferences of entrepreneurs and employees working in small and medium enterprises (SMEs) and the course offerings of vocational education and training (VET) (Billett, 2003; Lange et al. 2000; Lans et al., 2004; Walton, 1999). From a VET point of view, formal education and training is to a large extent based on (mono)disciplinary courses, enhancing employability and upgrading the education level of in particular employees and to lesser extent of entrepreneurs. The general reasons for the lack of interest in formal education mentioned in literature on SMEs are: unfamiliarity (lack of awareness), indistinctness, financial barriers, wrong perception of critical success factors, uncertainty and lack of evidence that training works in small firms (Lange et al., 2000; Walton, 1999). In practice, much of the learning in SMEs occurs incidental, implicit, often in partly, or unstructured learning environments. Nevertheless, the dominant approaches of contract education offered by VET are still structured, 'taught' courses, which are unattractive for workers in SMEs. Private training organisations (having a bigger market share in the SME sector), also offer these kind of courses, but increasingly expand their market share by supporting learning in non-course environments (in company courses, tailor made courses). So, if VET wants to continue assisting lifelong learning of small business workers in the near future, it is necessary to look for alternative processes and concepts. According to Rosenfeld (1998) VET should aim at four important missions. The missions that he roughly discerns are:

- An economic development mission (VET is responsible for delivering sufficient starters, responding adequately to the workplace demands);
- Relating technology adoption to skill requirements (maintaining and renewing competencies of workers in the region);
- Fostering regional innovations;
- Initiating and facilitating the formation of (new) networks in the region.



Especially the two latter mentioned missions seem to require a more pro-active role of the educational institute, and put more emphasis on the environment, networks, the context in which VET is operating. The actual involvement of (agricultural) education and training institutes in innovation and learning networks in the region is still rather limited (Warmerdam, 1999). VET has primarily oriented itself towards their public duties, with the emphasis on basic initial vocational education. With the increased attention for lifelong learning in the European Year of Lifelong learning in 1996, and the subsequent Memorandum on Lifelong learning in 2000, the situation is gradually changing. Vocational education and training has to orientate itself increasingly towards businesses in the region, as a partner for learning in the region (Nyhan, 1999).

In Dutch agricultural education similar developments are occurring. Dutch agriculture is often considered as the success story of innovation, production, processing and trading in agriculture world wide (Mulder, 2004). The Netherlands belongs to the top three exporting countries of agri-food products world-wide. The success of Dutch agriculture is often contributed to its well functioning knowledge system. The term knowledge system in the Netherlands refers to a configuration of institutes working in three different fields, namely: research and development, extension (consultancy and advice) and education and training. This triptych of research, extension and education efficiently facilitated knowledge transfer between these three stakeholders and farming practice. New technologies developed by agricultural research institutes were diffused by extension and education. Until the nineteen sixties the different panels were hardly separated from each other and financed by one and the same ministry: that of the agriculture, nature conservation and fisheries. Workers in the different panels often had jobs in which the roles of researchers, teachers and extension workers were united. The director of an applied research institute for example, was also a part-time extension worker and gave regular classes in agriculture in higher education. With an increase in specialisation of the different elements of the knowledge system, the privatisation of the agricultural extension service, the continuing economic liberalisation and an increasing knowledge-based and knowledge driven European economy, the linear model of knowledge transfer in the triptych became more and more an interactive model of knowledge transfer. The different players of the classic triptych had to reposition themselves in order to play a role in a knowledge infrastructure that is now dominated by demand driven financing, lifelong learning, the notion of the learning organisation, the tendency towards competence and performance management and entrepreneurship (Mulder, 2004). Also VET has to retain and regain its position in the learning of workers in SMEs in the agri-food business. At this moment all, new sorts of learning arrangements sprout around a wide diversity of themes and actors. If VET wants to continue to support the learning needs of SME entrepreneurs and employees, it has to identify (new) potential learning environments, encourage and finds ways to support this learning (Billitt, 2003; Kupper *et al.*, 2003). However, there is not much known about how VET could tap this potential market. Therefore, the study described in this paper focuses on success factors in identifying, facilitating and validating (new) learning environments for entrepreneurs and employees in SMEs in the context of the agri-food sector .



Learning in SMEs

As described in the introduction, the majority of learning in SMEs occurs outside the formal educational systems. Several (empirical) studies indicate that non-formal and informal learning are very powerful ways of learning, which should be exploited more (Eraut *et al.*, 1998; Cheetham and Chivers, 2001; Billitt, 2003; Lans *et al.*, 2004). For VET, an important question is 'how can we localise and identify these different learning opportunities?' First of all, it is difficult to differentiate between formal, non formal and informal learning. Many definitions around these concepts evolve, with often little agreement (see for an overview Colley *et al.*, 2002). The authors argue that discerning informal, non formal and informal learning is only useful when it is drawn into a particular context and that it is more useful to map dimensions of formality and informality, considering the wider context (historically, social and political) and the theoretical view of the learning by the writer. Looking at the SME context, the range of learning opportunities in SMEs differ from sector to sector, depending on for instance size, age and history, number of customers, product/service, ownership and control of the sector (see Davies, *et al.* 2002, and also Walton, 1999). For instance it is known that participation in education is patterned by sex, age, ethnicity, disability, caring responsibilities, educational background, employment, mobility and deprivation. Matley (2002) conducted an explorative study on the training and Human Resource Development (HRD) strategies in small businesses. The survey revealed that decision-making with regard to training and HRD activities is in the hands of the owner/manager (regardless of size, sector or ownership). A salient feature is that the study highlights the difference in training needs between family and non-family owned business. Davies *et al.* (2002) state that SMEs have two strategies with regard to their learning and development issues. These issues are either focussed, or dynamic. Focussed means that SMEs have important issues that should be developed in their business and they will act upon this need by taking a helicopter view, make a distinct decision and take action. The less specific learning and development issues have a more dynamic character. SMEs wait until an interesting issue appears before actually taking action on it. Both strategies of dealing with learning and development issues are important, but Matley (2002) argues that the majority of learning interventions are reactive, rather than proactive in their nature. Reid and Harris (2002) identified factors that contribute mostly to the expenditure of small and medium enterprises on work-related training. In their analyses it appears that HRD factors are one of the most important determinants for work-related training explaining training expenditure. More specific, factors that contributed considerably to the expenditure on training were the presence of a HRD responsible and the existence of a personal development plan. Also Skinner and Powell (2003) studied the HRD practices in micro-SMEs. They looked at how entrepreneurs in England handled HRD issues. The authors state that HRD should be considered from a network perspective that is predominantly based on personal communication networks. The importance of such networks in the development of either the entrepreneur him/ or herself or the employees is also acknowledged by research of Gielen *et al.* (2003). SMEs have a very wide range of learning opportunities. It will seldom be possible to find a single learning solution which provides answers to all the learning needs (Van den Ban, 1998).

If VET is able to identify learning in SMEs, it could be questioned whether VET could play a role in it, and if so, what role would be most appropriate. As Billitt (2003) puts it more or less: '*the orthodox practices of courses and programmes of instruction based in education institutes does not sit easily with these new learning concepts*'.



Although non-formal and informal learning are very powerful in the learning in SMEs, it can be questioned if learning solely from everyday activities in the workplace is sufficient. There is for instance not always access to external expertise, and workplaces have also shown to be ineffective when learning something completely new (Billett, 2003). Many researchers have contended the need for additional structures in the workplace to support learning (see for an overview Smith, 2003). In research of Lans *et al.* (2004), entrepreneurs indicate that some structuring of work-related learning is highly appreciated. From recent literature it is known that there are several factors conducive to learning in the workplace (Skule, 2004). For instance:

- Sufficient task variation in the job, participation in temporary groups, opportunity to consult experts, changes in duties and work roles that stimulate learning (Eraut *et al.* 2000 in Skule, 2004);
- Work roles that allow for peripheral participation in communities of practice, facilitation of informal communication, problem solving and innovation (Lave and Wenger, 1991, Brown and Duguid, 1991 in Skule, 2004);
- Structure and incentives for knowledge sharing, job mobility, autonomous jobs (Marsick and Watkins, 1999 in Skule, 2004).

Although Skule did not conduct his study specifically in SMEs, the framework provides us with important conditions that should be considered if VET wants to play a role in facilitating learning in SMEs. Skule distinguishes seven conditions in this framework which are all conducive to learning in the workplace. These conditions are:

- A high degree of exposure to changes;
- High degree of exposure to demands (from customers, managers, colleagues or the group/chain);
- Managerial responsibilities;
- Extensive professional contacts;
- Superior feedback;
- Management support for learning;
- Rewarding of proficiency (learning is rewarded).

An important aspect of learning outside the formal system is the validation of non-formal and informal learning. It is stressed more and more that the validation of non-formal and informal learning is essential in stimulating lifelong learning (Desci and Tessaring, 2001). Assessments can be either formative (supporting an ongoing learning process) or summative (leading to a certificate or diploma) (EU, 2004). The European Union suggests in this matter a framework for the validation of non-formal and informal learning. They discern four main principles for validation (EU, 2004):

- *Individual entitlements* (it should be voluntary, equal and fair for all individuals);
- *Obligations of stakeholders* (stakeholders should have adequate approaches for identification and provide guidance);
- *Confidence and trust* (procedures and criteria must be fair, transparent and founded)
- *Credibility and legitimacy* (balanced participation of stakeholders, impartial and done by competent professionals).



The principles formulated by the EU are still rather broad and focus on all relevant stakeholders that are involved in the learning of the individual. They do equip us with rough guidelines for looking at the issue in more detail.

The above outlined framework is a theoretical description of how learning in SMEs takes shape and what factors could be conducive to these forms of learning in the light of recent theoretical perspectives. However, important questions for VET practitioners are, what are interesting (new) learning opportunities, and what are not? What learning opportunities, should be localised and be facilitated or evaluated, in such a way, that the unique character (informality) of the learning is not at stake? How can non-formal and informal learning be validated?

Hence, in the conducted study , the central research questions were:

- i) What are success factors with regard to identifying, (to locate) new learning *environments* for entrepreneurs and employees in SMEs in the agri-food sector and
- ii) which factors are conducive in facilitating (and validating¹) these learning *environments* for entrepreneurs and employees in SMEs in the agri-food sector?

In this matter, the concept 'learning environment' is applicable to any place where learning (either formal or informal) opportunities are taking place, including the educational institutes and the workplace (Kupper et al., 2003; Evans *et al.*, 2004).

Methodology

The research focuses on entrepreneurs and employees working in SMEs in the primary sector. In this sector, every entrepreneur or employees working with pesticides must have a license to use pesticides. To keep this license it is compulsory to join several renewal (or refreshing) meetings. However, traditionally, these renewal meetings are arranged in formal courses. According to the target group, the renewal meetings in this form give a minimal impulse to acquisition of the latest knowledge and developments in crop protection and sustainability in general (e.g. food safety, integrated pest management, sustainability) (Wals *et al.*, 2000; Lans *et al.*, 2003). The renewal meetings are not demand driven, and other non-formal learning opportunities related to integrated pest management are not validated as learning activities. At the same time agricultural VET wants to re-establish the contact with this group of learners and research institutes look for new ways to disseminate knowledge. In fact, the problems in integrated crop management are a good example of a topic where the classic research – education – extension collapsed. In this situation VET needs to seek its new place in the knowledge infrastructure around SMEs. In 2002 VET, applied research institutes and the small businesses in the sector became aware of the possibilities of adopting new learning pathways to fulfil the learning needs of SMEs and assist them in acquiring the right knowledge in crop protection. In 2003, a project team was formed, in which representatives from education, research and practice participated. The project team had one specific mission which was to localise learning environments in crop-protection and find ways to connect and co-operate with participants in these learning environments. Eventually, four exemplary environments were identified, facilitated and validated. The monitored

¹ Validation encompasses assessment and recognition (see also EU, 2004).



- factors conducive in facilitating these learning environments;
- Factors with regard to the validating the learning in these learning environments.

Each interview was audio-taped and subsequently transcribed. The results of the transcriptions were returned to the VET-experts for possible suggestions, comments and verification. When necessary comments were added, or misinterpretations were corrected.

Results

The 'learners' were most satisfied about LE 2, 3 and 4 according to the scores that were given to the items *general appreciation* and *contentment* of the learning activities (see table 2). Learning in a self-directed, learner-centred learning environment is highly appreciated by the participants. The entrepreneurs and employees like the fact that they can choose the information they want to hear, and like to be active in the learning process e.g. by discussing results of research on crop protection with the researchers themselves. It is interesting to notice, that there is a difference between the contentment in general between learning environment 3 and learning environment 4. Learning environment 4 seems to have lower scores on the items general appreciation and contentment of the learning activities (although this is not statistically tested). Remarkable is, that the more informal the learning environment, the more specific the intention is to learn (based on the percentages of participants that had specific learning objectives in advance).

Table 2 Evaluation scores of the different learning arrangements¹.

Item	LE 1	LE 2	LE 3	LE 4
Number of respondents	32	20	27	61
Average age	42	47	37	39
Percentage male	94%	100%	92%	96%
Percentage entrepreneur	75%	90%	63%	71%
General appreciation trajectory (scale 1-10)	6.8	7.3	7.5	6.9
Percentage participants with specified learning objective in advance	23%	60%	75%	97%
Percentage participants that achieved learning objectives	29% Completely 71% Partial	58% Completely 42% Partial	45% Completely 50% Partial	57% Completely 43% Partial
Percentage participants that missed certain topics	17%	17%	24%	11%
Contentment about learning activities (scale 1-5)	3.3	3.8	4.6	3.4
Percentage participants convinced the learning trajectory was worth participating.	77%	95%	100%	94%

¹ LE 1 is the most formal learning environment, LE 4, the most informal.



Success factors in identifying new learning environments

In general, the VET-experts explained that after being involved in one of the exemplary learning environments, they started individually identifying learning environments in crop protection in their specific region. Examples with which they came up with were: study days organised by large pesticide suppliers, informal meetings organised by private extension services, on-the-job demonstrations of new spraying technologies, but also study-groups of entrepreneurs who own a weather station and evaluate weather data and the consequences on their crop protection management regularly. There is one VET expert who stopped offering formal courses since the beginning of 2004. From now on, he completely focuses on the identification, facilitation and validation of learning opportunities in crop protection in his region. According to him, this already led to some successful co-operation projects between his VET institution and enterprises in the Northern provinces of the Netherlands. All experts agree that it is not good enough anymore to just offer formal courses in crop protection. Formal courses on their own are very difficult to sell to the diverse SME group. It is interesting to mention that also on organisational level there is a shift from central co-ordination of course offerings, towards a decentralised, regional, way of working.

Below, the results of the interviews with the VET-expert are elaborated in more detail.

The interviewees indicate that in order to get a better feeling with the target group, you need to need to know *what is hot* and *what is not*. Although this sounds quite logical, practice seems to be more diffuse, and it appears to be rather difficult to precisely discern the top priority issues. Important, in this matter, is the relationship education-research. At present, a lot of effort is putted in the knowledge transfer between (new) university knowledge towards business. Scientific results should be incorporated more easily and more effectively into innovations in practice. However, in this discussion, knowledge transfer from research institutes towards VET is hardly mentioned. Education and training are still at the end of the knowledge chain. Only if knowledge is common good, pre-packed in new products, processes or techniques, it reaches education and training. The increased dynamics in agriculture do require a good overview of new developments: biotechnology and food safety are for instance fast emerging themes in crop-protection. These different themes all have an impact on SMEs. It is for instance known that innovative entrepreneurs get their knowledge on energy-efficiency out-side the agri-food sector. As a VET practitioner it is important to recognise these new windows of opportunities, not only taking notice of them, but also with an eye on identifying new learning environments in the future. The interviewed VET-experts commented with regard to this point, that is important to be creative, linking all sorts of new topics to (new) emerging learning needs and possibilities.

Maybe even more important than being up-to-date is knowing the right people. The experts mention that the most important factor in identifying new learning environments is to have the *right networks* at your disposal. According to the respondents different networks could be discerned, based on organisation (personal vs institutional) and type (target group). The experts differentiated between two organisation forms of networks, personal networks and institutional networks. Both networks seem to be very important. The personal network of a VET-professional enables him or her to easily pick up new information in the sector, therefore identifying fairly easily new learning needs and possibilities. An example in practice is having good contacts with (large) supplier companies of pesticides. These companies offer to their clients (the entrepreneurs) on-farm demonstrations of new chemicals, study days and discussion evenings. These are all rather informal learning activities, attended by a lot of



entrepreneurs, very popular and which often come down to discussing important topics until late in the evening. For a VET-professional is it therefore of extreme importance to speak the language of the target group and be physically part of the entrepreneur' networks. The main mission for VET seems to be: do not just participate in networks but be an active member. Besides personal networks, it is also important to have networks on school level. It is very risky to depend solely on the networks associated with one VET-professional. As one of the experts explained: *'with the success of participating in non-formal learning one of our best teachers in crop-protection decided to start-up his own business. Since he was involved in exclusive networks, he took those network along with him at the moment he left our organisation'*.

The experts pointed at roughly two targets groups, in which VET-managers should operate. Networks directly affiliated with the target groups (study groups, business clubs, alumni networks) and networks indirectly affiliated with the target group (suppliers, branch organisations, buyers, applied research institutes). In networks *directly* affiliated with the target group, alumni networks will gain importance in the future according to the experts. At present, VET in the Netherlands hardly invests in alumni networks after completing their initial education. However, alumni can be excellent sources of information for drawing up potential learning needs, learning opportunities and also providing education and training with feedback on their training program.

With regard to networks *indirectly* affiliated to the target group, especially networks with research institutes seem to gain importance. One of the experts already works closely together with an applied research institute. The applied research institute organises traditionally visitors day, to display and disseminate research results with entrepreneurs . These events are very good attended and provide an excellence learning environment. For research institutes it is important to disseminate research results as effective as possible, for VET it is important to keep up-to-date and for entrepreneurs it is important to learn and discuss new techniques and innovations. So besides having to right networks, it is also important to make use of this network in a reciprocal way. New, innovative forms of cooperation between VET and research institutes emerge. An more formalised example is the so-called bulb-academy, which consist of all the stakeholders involved in floriculture (growers, education and training, research, extension, suppliers, etc.). As a collective, the learning of the sector is stimulated and learning trajectories are being developed.

Although in theory the possibilities in being actively involved in networks are unlimited, the situation in practice is more complicated. VET professionals, and especially VET teachers, hardly have any 'spare-time' to engage in network activities. They have tide schedules, with hardly any space for acquisition. Since this is already for a long time the situation, the distance between VET and practice has grown over the year. With some exceptions, VET needs to re-establish their network with practice again and turn these networks into co-makerships witch are beneficial to all parties. Although examples do exist, this is more easily said then done.

According to the experts, there are also on the SME level, characteristics that should be taken for consideration in identifying potential learning environments. To start with: in-company educational and training programmes and personal development plans. A growing number of enterprises in the agri-food complex (especially the medium-sized enterprises: horticulture, gardeners, farm service and forestry) is working with personal development plans for staff members. Personal development plans provide VET a clear vision of learning of individuals in the sector; a powerful tool in assessing learning needs and also in locating potential learning



environments. Nevertheless, working with these kinds of plans is still limited to a small amount of companies. Especially in the small and micro enterprises, there is not such a plan or a HRD responsible.

Table 3 summarises the most important findings in identifying and locating potential non-formal learning environments.

Table 3 Quality factors for VET in identifying and locating potential learning environments as indicated by the VET-experts.

Indicator	Quality factor for VET
Trends and developments in the sector	Creativity Boundary-crossing
Factors in the region	Organisation of networks (personal vs. institutional) Type of networks (direct vs. indirect)
SME workplace support of learning	SME support for learning (Existence of personal development plans, HRD responsible for example)

Factors conducive to facilitating non-formal learning environments

After the identification of potential interesting non-formal learning environments, the next question that arose was: what factors are conducive to learning and can be provided by VET, and how to deal with assessing the learning of the participants? Since VET is no longer the provider of packages of information in crop protection to the target group, but also a participant in the learning environment, new roles do emerge. These questions are of present interest for all stakeholders involved in these learning activities. The answers to these questions become more difficult when the learning environment becomes more informal. The factors that were drawn from the interviews are divided into factors conducive to the actual character of the learning environment and factors concerning the monitoring and evaluation of the learning (validation).

With the *character* of the learning environments is meant: the actors involved, their responsibilities and the role of VET in the learning environment. Although the managers claim that if the process of identification is properly done, the learning environment should already have the right ingredients, they also say that sometimes the learning could be facilitated. All the interviewed managers do have an idea of factors that are conducive for learning in these environments. One of the most important factor is the actors who are involved in the learning environment. Who are the main actors in the environment and what is their role? In these environments many compositions of actors can be pictured. Particular business people have a lot of credit, since they speak the language of the entrepreneurs and employees in SMEs. In case of working with commercial companies it is important to make sure that the information that is presented is not only one side of the medal. Information on how to deal with certain pest and diseases could be very coloured, since companies are not solely interested in the learning of the entrepreneurs, but also in selling a product or a service and expanding their market share. Information should therefore also be explicit, and of course reliable. As well as looking for commercial backgrounds or content expertise, it is also important to look at the didactic skills of the actors involved. If certain didactic methods are adopted in the learning environment, it is important that the actors know what they are doing. For instance, how to give a presentation, how to facilitate a discussion or how to facilitate group work. The VET-experts indicate that it their role to help the actors in the learning environment apply the right didactic principles at the right time in the place with the right people. Since they have an educational background they can easily consult key-note speakers at conferences,



extension workers in study groups and researchers in discussing their research with practitioners. One of the managers already does this kind of consultation in practice, with is very much appreciated by the different actors. The motto he sells is: *'do what you're good at, VET teachers are not longer content experts, but should be facilitators of learning in all aspects'*.

Besides facilitating the learning process, important aspects in *monitoring and evaluation* of the learning are topics that were frequently mentioned in the interviews. It is not easy to validate non-formal learning in general. The VET-experts do agree that if you want to assess competence development of entrepreneurs after participating in non-formal learning, it is important to look at the actual performance and intentions of the entrepreneurs in practice. In other words if they have been to a conference on organic farming and crop protection, you would expect the entrepreneur for instance to think critically about chemicals, when purchasing new pesticides or maybe considering biological control agents when applicable. In this case, the assessment is a even more precarious subject, since it is the government who actually wants proof that their entrepreneurs use crop protection methods in a safe and responsible way. Besides, there are more than 80.000 people that have to be assessed every 5 years. Just assessing them with a traditional paper and pencil test, would be the most easiest, but also the less precise way to make sure that pesticides are used in the right way. The VET managers also recognise this problem. But with the identification of new learning environments they also see new opportunities to assess learning. Probably the most important factor is that learners feel responsible for their own learning. It is not education and training, nor the government, that is primarily responsible for the learning of the individual. This should be taken into consideration in assessment issues. If the learner wants to be rewarded for the learning he or she has done, he or she should take the initiative, and collect the prove that he or she has learned something by him or herself. VET can play both a role in the formative evaluation and summative evaluation of the learning. For example, the use of a port-folio and personal development plans were mentioned several times as a way to stimulate formative evaluation. There was nevertheless no consensus on how to use these kind of instruments. In practice, these instruments often, come down to the completion of evaluation forms. In stead of a way of showing what you have done, it is experienced as a lot of additional bureaucracy. According to one of the VET experts, extension managers or colleagues (peers), could play a crucial role in the formative process of assessing, since they frequently visit the enterprises. Extension experts have good picture of the actual behaviour and intentions of the entrepreneurs on several issues, also in the field of crop protection. On the one hand they could provide the entrepreneurs with feedback on their learning and actually see what the transfer of certain learning activities was. On the other, they can provide VET with input for evaluation of the learning, how the learning event was experienced, what went well, what went wrong, and what could be possible improved. If required, VET could explain and elaborate the more fundamental principles that are behind techniques, concepts or mechanisms of the learned. It can be said that VET perhaps could play a role in closing the learning cycle, by providing information and feedback with regard to the learning event. One of the possible drawbacks of such a relative intense way of monitoring, is time and money. It is almost impossible to assess, let alone coach, 80.000 entrepreneurs in a valid and reliable way. Besides time, entrepreneurs and employees are not very keen on paying a lot of money in order to get their learning continuously assessed; why should they? In knowledge intensive and dynamic topics as crop-protection, is it far more important that the entrepreneur is continuously critical and reflective on his intentions and behaviour, than that he has a licence or



diploma that is valid for five years. According to the VET-experts, formal accreditation will always be a function for VET, since they are still relatively 'neutral', integrity is the key. Table 4 summarises the quality factors for VET in facilitating and validating learning in non-formal learning environments.

Table 4 Quality factors for VET in facilitating and validating learning in non-formal learning environments as indicated by the VET-experts.

Indicator	Quality factor for VET
Actors	Didactic skills Expertise
Content	Feedback provided Elaboration on instrumentation, methods, methodologies and techniques Objectivity of the content
Validation	The individual is responsible Credibility and legitimacy

Conclusions

In the study described, the identification, facilitation and validation of learning in small business from a VET point of view was the centre of interest. If VET wants to play an role in the changing knowledge economy, it should adopt different ways of assisting the learning in SMEs. From four exemplary non-formal learning environments in crop protection, in which VET played a role, quality factors for VET in identifying, facilitating and validating non-formal learning were derived. The participants (the learners) indicate that they enjoy learning in these kinds of 'non-formal' learning environments. The level of 'informality' still remains an item of discussion, from a theoretical as well as a practical point of view. What are exactly "non-formal" learning environments? One could argue that there are few, if any, learning situations where either informal or formal elements are completely absent or dominant. The context is in this respect decisive (Colley, Hodkinson and Malcolm, 2002). In practice, it should be taken into consideration that often a mix of formal and informal learning co-exists in learning environments. To make use of these learning environments, it is not a simple matter of copying quality indicators which are important for the development of formal education and training. If the process of traditional course or training development is distinguished in stages of preparation, implementation and evaluation, then in every phase several factors are important. Quality factors in each in of these phases are probably conducting a traditional needs assessment, selecting and sequencing content, developing lessons and completing the course with a paper and pencil test (Leshin, et al. 1992). The starting points for identifying (preparation), facilitating (implementation), and validation (evaluation) of the learning environments as described in this study, differ considerably from these traditional starting points. Other factors are important. These factors, we referred to as *quality factors*. In order to *identify* non-formal learning, creativity, boundary-crossing, the organisation of networks (personal vs. institutional), the type of networks (direct vs. indirect) and the SME support for learning (e.g. personal development plans) are important determinants in this process. At a personal level VET-managers should be actively involved in networks of their target groups. At a school level, networks with R&D institutes as well as networks with alumni seem to increase in importance. Networks with R&D institutes can provide school organisations with knowledge that is still under construction, or knowledge which is not yet explicit (but tacit). Alumni, on the other hand can give specific feedback on how to improve current



educational programmes, on detecting gaps between education and the labour market and therefore provide the school with information potential (new) learning environments (Mijatovic, 2001). For VET it means that they have to be creative and look also at the other side of the fence (for instance other sectors), for opportunities. It will depend heavily in creating co-makerships with mutual benefits. Factors in the SME workplace as the existence of personal development plans could also provide VET with new opportunities to locate potential interesting non-formal learning environments.

With regard to *facilitating* and *validating* non-formal learning, eight quality factors were derived from the interviews, namely: didactic skills, expertise, feedback provided, elaboration on instrumentation, methods, methodologies and techniques, objectivity of the content, the individual is responsible, time & money, credibility and legitimacy. Although some speak for themselves, others are more difficult to organise. Especially the factors with regard to validating non-formal learning, are more easily said than done. It will be time consuming if formative as well as summative evaluation is carried out individually. With this respect there is a potential risk of overfeeding your target group with forms and regulations, intensifying the bureaucracy. With regard to credibility and legitimacy it could be questioned if all the stakeholders involved are competent assessors and impartial. It could even be questioned whether VET is as neutral as they call themselves. Also VET is increasingly dependent on investments from the market and is more and more involved in private-public initiatives. Although the possibilities of locating new learning environments seem to be innumerable, there is still a long way to go. The exemplary environments shown in this study, do by no means, reflect the situation in all Dutch VET. There is more to it than just assisting learning in the right place and time. If VET wants to take hold of the possibilities that lie in assisting SMEs in their learning seriously, it still has a long, but promising way to go. Probably the best way to start is, expanding personal and institutional networks. Warmerdam (1999) argues that VET could play five different roles in networks:

- An initiating role (initiating the formation of networks)
- A broker role (matching organisations with a common interest)
- A partner role (participate actively in a network)
- A directors role (acting as a focal point in a network)
- A facilitating role (providing information at the right time).

Although examples of all the different roles exist, Warmerdam concludes as well that these types are an idealised image of reality. The broker role as well as the facilitating role seem in practice the most potential and realistic role of VET in networks. Different regions have different networks, in which different actors operate. This, logically demands a more regional approach. Ideally it could be said that the function of VET, gradually shifts from a formal course supplier, towards a facilitator of learning in the region. However, much needs to be done, to establish this new role. The gap between VET and practice should gradually become smaller and VET-managers, but more important on a lower level the teachers, should also adopt this way of thinking. From a research point of view it will be interesting to monitor and evaluate these developments in more detail and eventually analyse long-term effects of these learning trajectories, for VET and for the entrepreneurs and employees working in SMEs.



Acknowledgements

The study that is described in this contribution was funded by the Ministry of Agriculture, Nature and Food Quality in the Netherlands as part of the so-called 'plan dienstverlening'.

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