



VET QUALITY IN ICT SECTOR - VET QI
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Guidelines for Quality Training in ICT Sector for Small and medium sized Company



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THE GUIDELINES FOR TRAINING IN ICT SMES

Following should be seen as a series of guidelines to be followed by ICT SMEs and Vet providers for obtaining a proper quality assurance approach toward training in their company in line with EQAVET principles

The guidelines will cover the four steps of EQAVET quality cycle and address the organizational climate as a transversal point.

Planning

The best way to approach the planning of training in a small and medium sized enterprise is always the definition of a training plan. This should be elaborated according to the company needs in the early phase of the training process. The needs analysis should be designed taking into account not only perceived training urgencies but also a strategic design leading to continuous update of knowledge in the company and its overall development. Actually, the basic need for planning a training activity is depending of a integrated / related cultural approach and can arise from:

- The launch of a new project or a new company activity
- The widening of the market or the improvement in consumer orientation
- The inclusion of new workers in the company team
- The implementation of a new software/hardware in the production processes of the company
- The updating/upgrading of the certification of the company
- A reaction to new market requirements
- A reinforcement of company policies



- A criticism in the company (such as scarce team spirit and collaboration)

The majority of these motivations are common to training across sectors, .In the ICT sector the processes are related to change, to innovation in methodologies, to new instruments and new market requirements which are faster in comparison to other productive sectors and consequently they lead to the decision of launching training activities.

What the market and Quality Assurance references such as EQAVET suggest is the sharing of this plan with several other key actors involved in the productivity process. It is quite common fact that, in small and medium enterprises led by only one manager, decisions toward certain aspects of the company are not shared completely with the whole staff. In this sense, the first key point for a developed strategic approach to training is an early involvement of managers, directors and staff in planning the training needs plan. This involvement can be implemented with formal tools such as questionnaires or interviews but also through frequent meetings, brainstorming moments, direct suggestions of actors/stakeholders. The support of a VET provider with a concerned approach toward quality assurance standards in this particular phase, can be a good way to obtain successful and effective results in the training process. VET operator can easily provide tools to be used for a deep and fruitful analysis together with the proper involvement of staff. This involvement can have two positive effects on subsequent training activities. The first positive effect is a more complete analysis of training needs, implementing also requirements from future trainees leading also better answers of challenges coming from the market. Moreover, a shared approach toward training programming is also a manner of having a smooth and more fruitful implementation, as the putative trainees took part in its definition. This is also in line with an overall improvement of organization climate, a feature is more and more important for performances in a small company and for its overall success.

Once the tools used are gathered, a strategic plan can be created. This plan should take into account not only training activities to be carried out but also define how responsibilities in training activity management and development are explicitly allocated. The document should be shared in its final version with actors involved in the company. Information on expected training outcomes should be widely shared within the enterprise.



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The adoption of a formal tool such as the training plan should not influence the flexibility of training activities, especially when dealing with real situations. A plan in this case is not carved into stone, it is a starting point for creating a path for improvement.

Planning should be made each year with frequent reviews, in consideration of relevant events (such as new projects, new requirements, changes in staff, etc). This task can be delegated to external bodies (mainly VET providers) but it can also be done starting from internal initiative and be shared with experts and trainers. It should be conceived taking into account a large number of criteria. First of all, planning should take into consideration the participation of external experts or stakeholders, mainly for a correct design of training activities: this is particularly true as the company is working with co-financed training, where proper attention has to be paid to resources (not only financial) spent for their implementation. Moreover, other stakeholders could be integrated into the initiative, such as Trade Unions and Local Authorities (particularly in view of ensuring coherence with regional/national/European professional training framework). The last point was criticized during pre-test and experimentation phase of VETQI as some companies report that rules and external stakeholders can represent a rigid element in the definition of a flexible training plan. However, a wider viewpoint belonging to one of these actor, can be a real added value for the enterprise, as they could better address the overall strategic approach of training taking also into account specific needs, such as, in case of Trade Union, promotion of workers profiles.

One more aspect that is relevant is the one concerning the formal recognition and evaluation of the competences/knowledge acquired after a training activity. In this sense, planning should take into account specific requirement in terms of recognized competences (for trainees and company) coming not only from market but also from certification or accreditation procedures

The Training plan

From a formal point of view, once the needs of the company are gathered with formal and informal tools (interviews, questionnaires and internal meetings) the basic document to be



created is a “training plan” that should make explicit reference to objectives and motivation behind the training, the correct reference to resources (both human and financial) and establish a formal process of monitoring and evaluating of implementation of training processes.

The plan should be designed on the basis of the company’s overall mission, its market position and its customer orientation, with the goal of providing a path for training implementation, updating and improving staff’s skills and competencies, requirements for certified and recognized training. . It should also clearly define objectives and results that the company is willing to get by the means of training processes. These, of course, can vary from time to time. Hence an updating process is to be foreseen.

The plan should balance the different needs as presented by each department responsible, engaged trainer, stakeholders and staff. The goal of this document is to determine the priorities to be followed for training processes selection. As already stated, a very important part of this document should also highlight the resources to be implemented in training processes. Especially for staff engagement, resources should be clearly indicated in order to plan in a smooth way the organisation of ordinary work and to specify effective responsibilities. Although it can be a simple concept, it seems that this is one of the key factors for implementing training without compromising internal balances. This is even more relevant for training courses programmed during normal work time. Moreover, financial resources must be analysed especially in case of non- cofinanced training initiatives, where the costs are totally in charge of the company. This part can be analysed through passing of time, in order to estimate the effective results of training activities also under an return of investment point of view.

Another capital point for a proper training planning is the determination of tools to be used for evaluation of training activities not only after its implementation but also “in itinere”. This part will be analysed in Evaluation part of this Chapter.

Once the priorities, resources and tools are clearly defined, a summary list of required training courses can be drafted, taking into account subjects, staff and departments involved, internal process where acquired skills can be adopted, required duration and hourly engagement per day.



This summary should take into account roles and key behaviours presenting difficulties or needs for updates so as to monitor its development throughout the training processes. It should also provide budget preview, both in terms of cash and in terms of staff costs engagement. This summary of training activities should take into account legally required trainings, updating in selected subjects (such as agreed training initiatives linked to specific acquired services – such as software or hardware implementation) and certifications procedures.

The plan should also pay attention to transversal competences, such as leadership, team management, planning, policies development, human resources management, conflict resolution and problem solving. Moreover, the whole training processes should take into account soft skills of trainees. *“Soft skills is a sociological term relating to a person's "EQ" (Emotional Intelligence Quotient), the cluster of personality traits, social graces, communication, language, personal habits, friendliness, and optimism that characterize relationships with other people.[1] Soft skills complement hard skills which are the occupational requirements of a job and many other activities. Soft skills are personal attributes that enhance an individual's interactions, job performance and career prospects. Unlike hard skills, which are about a person's skill set and ability to perform a certain type of task or activity, soft skills relate to a person's ability to interact effectively with coworkers and customers and are broadly applicable both in and outside the workplace.”¹* Soft skills can really affect the results not only of ordinary work, but also training initiatives. The involvement of Vocational Training organisation or trainers with recognized system to define profiles for trainees, or able to place attention in these fields can help the effective transfer of competencies to the company activity.

¹ http://en.wikipedia.org/wiki/Soft_skills



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Implementation

Implementation is the effective realisation of planned training activities. In order to define a proper path for training implementation, the company has to deal with a series of points addressed by the planning phase.

- Funding of initiatives
- Frequency of training activities
- Designing of training: on demand or by selecting already established courses
- Selection of training providers
- Responsibilities and roles for internal staff / delegation to external providers
- Staff and categories involved in training
- Methodology aspects: single/group, lectures, distance learning, etc.

Some of these points, such as funding of training and resources management are already planned during needs analysis phase so in this sense, a strategy plan will really have a positive effects in granting efficiency of training activities.

Frequency of training is of course directly linked both to the needs evaluated and by specific requirements. It can be said that, especially for ICT SMEs, the frequency of training courses is higher as know how and skills can suffer from rapid obsolescence. Other frequent training needs can emerge also from safety at work requirement (often defined by law) from the necessary maintenance of standards and certifications.

The company has to also to decide whether it wants to use internal or external resources for training implementation. This selection can be made on the basis of conclusion reached during planning phase. Internal solutions, involving personnel dedicated to training, can be implemented in case of maintenance training or for inclusion of new staff members in operative tasks. In this sense, internal training initiatives can be provided via traditional courses, workgroups, focus groups, training on the job and specific e-learning programmes. External training provision can a solution for acquiring innovative competencies (not present in the company)



A key aspect raised during VETQI project experience is the importance of confrontation of small and medium ICT Smes with foreign realities: an added value to training programs as determined by the company, can be also the comprehension of foreign trainer providers' offers, specific periods of training in other countries (not only European but considering also USA), selected stages/work experiences abroad.

From activity design to training methodology

The designing of training initiatives is another key factor in granting both quality assurance standards and efficiency in the same time. Availing or not to already determined training path is a matter of how deeply specific and technic is the subject tackled: the higher is the specification, the less is the possibility to find an already structured program to cope with effective necessity from the company. Involvement of training provider in overall planning stage, can really help the design of activities, especially for the flexibility of this initiative, the correct balance of resources, involvement of required expert/training source, implementation of necessary features such as online modules, specific trial stage, on the job activities, shadowing. Moreover, for designed programs, it is necessary an extensive knowledge of market, both in term of effective requirements and of training outputs. This could lead to higher costs in terms of management of training (but they could be covered by co –financed measures) but also to more flexible solutions. On the contrary, applying for an already established training program, can have lower costs in terms of resources, a less relevant knowledge on market's requirement but of course, it can have some rigidity in its implementation, and, as VETQI project experience during target groups contact phases, flexibility is one of the most required features for ICT training in small and medium enterprises. Another advantage of designed platform is the possibility to assess and evaluate learning results especially as for technical skills and competencies.

The trainer selection is another capital step for a proper implementation of a quality training, once the company decide not to exploit internal training resources. This is valuable both for “catalogue” and ad hoc training.



The Screening phase is of course the first step, where training providers are assessed on the basis of several criteria, especially looking at possessed certification, with the goal of assuring quality assurance procedures. Screening should then lead to give different weightings to the selected training providers: Criteria for evaluation can be:

- Authority in the market
- Training output quality
 - Trademarks and certification
 - Overall training offer
 - Previous experiences
 - Special features in line with company's requirement
- Customer orientation
 - Flexibility for company's needs
 - Courtesy and rapidness in proposal
 - Project management flexibility
- Market confidence
 - Duration in the market
 - Staff know-how and experiences
 - Feedback / Reputation
- Financial conditions
 - Financial proposals
 - Integration with co-financed activities
 - Complete quotation
- Overall quality of training proposal

In the light of a right selection in training implementation, the company should require VET providers to have an explicit and transparent quality system they publicise of their own accord: this is esteemed by ICT SMES company as one of the key features for an effective collaboration and for successful results, both in training transferral and in terms of smoothness of implementation.



Training methodologies can vary from traditional face to face providing or from distance learning via web tools. Specific approaches can be integrated for granting a more active participation of trainees leading to more successful transfer of skills and competencies. Role play, specific study cases, discussion and work groups can be implemented in training programmes in order to ease the learning approach and better meet trainees' needs. Those initiative could really better match theory and practical aspects linked to training so the recommendation is to be open to innovative training methods and to require VET operators able to offer a strategic set of different tools and methodologies to be applied in training.

The duration of the training activities of course is different and in direct relation with subject focused: the selection is of course a balance with specific requirements, training needs and of course, financial conditions. The scheduling is also a possible critic point for training implementation. What it is emerging from direct experiences in VET providers involved and in ICT Company is the need for a flexible approach (which it is not possible in all case). Once again, the recommendation is to fully consider "time expenditure" in the planning phase together with VET provider

Several roles are defined for training activities implementation. Beside designing operators (with coordination and administrative know-how), the project coordination, trainers and experts, a relevant profile is the tutor. The tutor is a professional operator with a deep knowledge of training procedures, performing overall control, monitoring, evaluating and operative functions (such as group activities management, exercises, final tests, etc) in line with what it is established by the training project. In this sense, tutor is trained to manage tools and methodologies for training but also criteria to cope with Quality Assurance systems. Company should accept and require presence of Tutors during training activities as their role is relevant for improving training transfer success, favouring also training environment and overall satisfaction for Trainees.



Evaluation and review

Evaluation and monitoring of training activities are steps to be applied not only in long period analysis but during their actual implementation. Companies, trainees, trainers and trainers avail on a range of tools for monitoring and evaluating the training.

Results of this evaluation are often made public to trainees and the first recommendation is to require for this when dealing with external training. A formal evaluation of acquired competencies (by the means of specific tests or exams) is sometimes not present in vocational training: this evaluation is generally provided by direct exercises conducted during the course or just after. Even the observation of common work and other instruments for assessment offer, to managers and company decision makers, the possibility to evaluate the competencies acquired by trainees and their application. On the other hand, it is important to verify skills and competencies already acquired by the trainees before the start of any training activities in order to better program and adapt the didactic action. The correct approach is then to pay attention to evaluation tools, use them and share its results to all actors involved in the company.

The adoption of a formal procedure for assessing the training can really represent a key point to obtain success in training initiative and an overall improvement of staff performances. This procedure is often established by the type of training (for example, specific certification such as CISCO or Microsoft already foresaw tools for evaluation of transferred competencies), or by specific framework (for example for co-financed training, where specific rules and tools are to be followed) or under the quality assurance schemes followed by the VET providers or by the company.

Summarizing, the training evaluation phase is particularly important as it

- Improves training planning and needs analysis,
- Improves the definition of training provision
- Strengthens training impact in human resources
- Better identifies weak points in training initiatives in order to modify or abandon them



- Defines good practices to be replicated and transferred to other contexts in the company
- Assesses and justifies financial investments

Impact evaluation of training can be influenced by several criteria, as determined by the type of stakeholders (such as trainees, managers, directors, social parties, trainers and vet organisation) involved as they could be interested in different impacts. One of the possible solution, as suggested by *Polo Formativo a supporto dello sviluppo e dell'innovazione della Meccanica Strumentale e dell'Industria Manifatturiera Lombarda*² is to focus on key behaviour of trained roles: if training was effective, the needs and the difficulties underlined at planning stage should be covered. This can be done via ex post analysis of production activities for trained people. Such analysis should be then formalised in a report, to be used for new stage of training planning

Tools for evaluation should also include both on going monitoring instruments and ex post assessment questionnaires. Examples are Single Trainee checklist (where trainer evaluate the overall participation of single trainees, its capability, weak points, soft skills implementation and other behaviours) , lesson monitoring review (where, apart from general data related to training, such as modules, materials, methodologies used and other, effectiveness of training, goal achievement and methods are evaluated by a Tutor or coordinator), self-assessment questionnaire for trainees (evaluating approach to training and soft skills utilisation), questionnaire on trainer and training session by trainees (assessing trainer's abilities, overall satisfaction, timing and scheduling, etc) final evaluation questionnaire by trainers and tutors (assessing relation with trainees, participation). Once again, Company should consider the utilisation of these tools or require the training providers to adopt them during training activities, as these set of methodologies can have positive effects in strengthen the continuous implementation of training, and , by the end, improve its effectiveness

² GUIDA ALLA DEFINIZIONE DEI PIANI FORMATIVI AZIENDALI, *Polo Formativo a supporto dello sviluppo e dell'innovazione della Meccanica Strumentale e dell'Industria Manifatturiera Lombarda* (Italian)



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These instruments, designed for different actors, should constitute a part of overall evaluation of training impact together with ex post analysis made by managers (as reported in our VETQI experience) by trainers and by other actors.

We furthermore recommend the adoption of pre-alarm systems, which in some case are not known to some interviewed subjects ("I have never heard about it"), but are really interesting to be implemented for some others ("If that pre-alarm system would be available – that would be fantastic news"). Such evaluation tools can really match critic situation (from new requirement in the market to staff modification) with proper training solutions and, from a formal point of view they could constitute a key part in evaluation report.

The review phase is the final step of the quality cycle, where all the results for implementation and evaluation are assessed to influence new needs analysis. Review phase is often underestimated as "quality step" while we recommend to the company to consider it (and all the linked actions) as a fundamental part for training.

In line with the planning phase, the involvement of a range of actors is needed. First of all, managers and directors should analyse the results of the evaluation of acquired competencies in the midterm, in order to decide how to modify future training needs. It can be a point of strengths to have formal evaluation tools for performances comparison with the goal of creation of a complete training horizon . Also VET providers and trainer review is fundamental: availing on their competencies and their market knowledge, they could positively influence the whole review process to more effective decisions. Finally, trainees and staff's point of view is to be taken in account. Results from training outcomes and evaluation must be widely available inside the company and they should be shared also with specific experts and stakeholders but also with trainers and other partners, with the goal of achieving a complete set of point of view influencing the new starting point of planning phase and following action plans.



Organisational climate

Organisational climate, other than being a relevant key factor in productivity for a company, proved to be in direct relation to vocational training.

As many enterprises and VET providers showed to the VETQI consortium, training (especially to micro and small enterprises) means not only structured training courses but also something less formal. This leads to a different meaning of training, which could take into account also informal and less-structured training approaches (frequent meetings, on the job, team working, webinar). New indicators have been included at the background of VETQI project . referred to this “soft” approach covering communication, skills, organizational learning, problem solving within enterprises. The importance of these items is even more significant if we think that staff is always engaged in every quality cycle phase of EQAVET (and of course of VETQI) so frequent updating (also under informal way) are necessary to acquire a correct quality assurance approach.

According to several organizational studies, training has also something to do with organizational climate since to “enhance” employees can mean also to spread the core values of the company as well as to give them the chance of being part of the company. Training does not mean exclusively technical or linguistic or practical skills, it also means soft skills that are the core elements of an organizational culture. Companies should then pay attention to organizational climate when planning or implementing training and, in case of external provision of training, require and suggest training methodologies promoting this positive attitude..

Recommended criteria to be taken into account for an effective promotion of organisational climate are mainly these

- *Salary/fringe benefit, Promotion of individual initiative, Respect and award for staff* : a key factor, especially for ICT smes is the fact that Managers and Directors should create condition for individual initiative, making also possible for workers, especially for training, to be heard in case of specific needs and ideas. This overall approach can have then also a good effect on training implementation as workers are actually involved in this process. How this criterion is important is also demonstrated by one of issues reported by experienced VET providers: training could not be effective or even not implemented where



manager (especially from microenterprises) fears that his/her know how and competencies can be surpassed by what the worker can learn, creating an asymmetric situation.

- *Attention to employee's work:* this behaviour is particularly significant for training implementation, as one of the main issue to tackle is to correct and influence behaviour linked to trained roles. The adoption of informal tools, such as meetings and direct contacts, and formal instruments, such as the specific part in Planning documents, could tackle this issue and grant also positive effects in general company standards.
- *Attention for staff recruitment :* as already reported, one of the most relevant starting point for training launch is the inclusion of new a staff member in a company. The attention to be paid in this situation is much more important if we take into account the fact that recruitment process should also imply internal training, frequent updating on competencies and roles and adaptation to situation's requirement. Company should also consider soft skills for new staff member, but also for workers as trainees, as it can really affect not only the overall training programme but the whole company performance.
- *Group spirit:* the group spirit is a decisive aspect, especially for small and medium enterprises where collaboration is more than needed. The proper attention to favour group attitude is a key factor also for training planning and actual implementation. This approach is in direct relation with a series of applied methodologies such as project working, working groups and other. If you want people to act as a group, if team spirit is important for you, pay attention to soft skills in your training programmes and make it an integral element of the planning of your training activities.
- *Sense of belonging:* this issue mainly related with emotional relation of worker toward his/her company, is in strict connection with training as motivation behind commitment. Company should then promote sense of belonging into its workers since engagement at work can have obvious benefits in term of impact: a trainee can have more interest in updating his/her competencies if this means an improvement of the role and of the company.



Conclusion

This set of recommendations is an answer to quality assurance requirements for an effective training in ICT Sectors. This was conceived as a starting point for those small and medium enterprises not fully aware of importance of training implementation aspects but also for managers and directors that can not avail on specific company division dedicated to human resources development and training.

The proposed solution is created on the basis of European framework for quality assurance in training – EQAVET, as a background reference but also to new market requirements, which was the main idea of VET QI project. While the reference given by EQAVET is considered as a starting point for its future importance in overall European training strategies, these guidelines tried also to match with the other side of quality, which is customer satisfaction and effectiveness of provision.

The VETQI project has shown, during its lifetime and implementation, how the never ending changes in innovation in the ICT area make SMEs to demand high levels of development and updating of their employees, with the directly related necessity of an important connection with VET providers, essential in order to know what is really demanded on the market and to produce adequate training according to real needs. These guidelines are trying to reduce this space contained between VET training and market need offering solutions and criteria to be considered when approaching training.

These guidelines stressed a series of capital steps that every manager of a small or medium sized ICT enterprise should undertake: from the adoption on structured training process, to involvement of selected stakeholders and of trainees. The analysis to be done throughout the quality cycle phases should be integrated by other features, such as attention to organizational climate and soft skills in workers and in trainers.

The work does not end here: quality assurance must be matched with training outputs and related competencies. These guidelines, nevertheless, can really have a positive effects for the improvement of training for the companies involved. If we improve this, we improve one the main wheel for European economy development.



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