



EQAVET

European Quality Assurance
in Vocational Education and Training

Supporting the implementation of the
European Quality Assurance Reference Framework
for Vocational Education and Training

VET providers' self-monitoring by using the EQAVET toolbox of indicators (A Guide for National Reference Points)

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Foreword

These *Guidelines* have been prepared as part of a bank of resources to support VET providers in using the EQAVET indicators to develop their capacity in self-evaluation and to support the process of embedding a dynamic quality assurance culture within their learning environments.

The Guidelines are designed to be used by quality assurance national reference points as they advise and support VET providers as part of their national approaches to the implementation of the European quality assurance reference framework.

The material on using the indicators should be used in conjunction with the guidelines on building the quality assurance process which form an integral part of the Quality Cycle IT Resource. This resource material is designed to support the process of implementing the EQAVET Framework and quality cycle in Member States. As countries move beyond the development of their national approaches and begin to focus on the realities of using the quality cycle to support quality and embed a culture of quality management, we hope that national reference points and VET providers will use the IT resource and supporting materials widely.

These materials represent the result of significant collaborative work undertaken by members of the national reference points; experts from the Member States and the social partner representatives. They build on the work undertaken in phase 1 of the EQAVET work programme 2010-2011 which devised a set of resources to support the development of a culture of quality assurance at system level. As in phase 1 the contribution of the earlier work undertaken by ENQA-VET and CEDEFOP has been very important.

The materials draw heavily on Member States' experiences and provide examples of good practice which highlight how individual VET providers have developed their quality management approaches using the EQAVET Recommendation. They are of course a dynamic resource which will evolve as more and more providers use them and the EQAVET quality cycle becomes embedded in systems and individual institutions.

The work undertaken has built on the significant contribution of a large number of Member State representatives, who have been supported to enable their participation in European meetings, who have sustained an intensive level of online cooperation between meetings and provided examples of good practice to ensure that materials are relevant for use by those with responsibility for quality management in VET provider institutions.

We look forward to the next phase of our work in EQAVET which will continue to focus on implementation and mobilising stakeholders at national level in order to ensure that VET provides opportunities to individuals to fulfill their personal and professional needs and to be an attractive learning pathway for young people, particularly in this time of economic uncertainty.

Sean Feerick
Director
EQAVET Secretariat

Introduction

Things should be made as simple as possible, but not any simpler

Saying attributed to Albert Einstein by Roger Sessions
In the *New York Times* (1950)

The *Recommendation of the European Parliament and of the Council on the establishment of a European Quality Assurance Reference Framework for Education and Training* (Reference Framework)¹ was adopted by the European Parliament and the Council of Ministers of the European Union on 18 June 2009. It constitutes a significant stepping stone in paving the road towards quality assurance in the Education and Training² (VET) and responds to the policy goals of the “Copenhagen process”³.

The Reference Framework promotes cooperation between the Member States of the European Union (EU) by encouraging them a) to participate fully in the European Quality Assurance Reference Framework Network and b) to support their Quality Assurance National Reference Points for VET⁴. Moreover, strong emphasis is given to monitoring and improving quality by combining internal and external evaluation, review and processes for improvement, supported by measurement and qualitative analysis.

It is within this context that the EQAVET Network has developed tools which will contribute to the improvement of Quality Assurance in Vocational Education and Training across Europe and support the national approaches to the implementation and use of the Reference Framework⁵.

The *VET providers' self-monitoring by using the EQAVET toolbox of indicators (A Guide for National Reference Points)*⁶ is designed to encourage dialogue about the role that indicators, particularly the set of EQAVET indicators, should play in VET providers' self-monitoring process. The assumption here is that a VET provider's self-monitoring is a complement to its self-evaluation, i.e.

- a) Self-monitoring gives information on “where” the VET provider is at any given time (and over time) relative to its respective objectives and outcomes;
- b) Self-evaluation gives evidence of “why” VET objectives and outcomes are/are not being achieved.

This **Guide** encourages its users a) to think about self-monitoring as an integrated and valuable part of VET provision planning and delivery b) to use the EQAVET toolbox of indicators.

It is worth noting, however, that this **Guide** is neither country-specific nor is it VET provider-specific. It offers a general approach to self-monitoring at VET provider level based on the EQAVET indicators⁷ which not only reflect the main dimensions of the VET provision but also

¹ Official Journal C 155 of 8.7.2009. Available at http://europa.eu/legislation_summaries/education_training_youth/lifelong_learning/c11108_en.htm

² VET is used for Vocational Education and Training according to the existing convention.

³ The Copenhagen process was launched in 2002 and it aims to improve the performance, quality and attractiveness of VET through enhanced cooperation At European level. For further information, please see

http://ec.europa.eu/education/vocational-education/doc1143_en.htm

⁴ Henceforth named as National Reference Points under the acronym (NRPs)

⁵ For further information, please see <http://www.eqavet.eu/gns/home.aspx>

⁶ Sometimes referred to as **Guide** for convention

⁷ Please see List of EQAVET indicators (**ANNEX I of the EQARF Recommendation**) annexed to this Guide. The list is also available online at http://ec.europa.eu/education/lifelong-learning-policy/doc/vocational/eqarf_en.pdf

help to focus attention on those dimensions when tracking changes over time in specific quality areas.

The EQAVET indicators are intended to measure a broad range of issues regarding Quality Assurance (QA) and Member States and VET providers' response to those issues. However, because the QA in VET covers so many topics and because substantial resources can go into collecting data at national level, the set of indicators presented here may not comprehensively address all the specific monitoring and evaluation needs of the VET providers in a given country. That will involve the VET provider to choose the most appropriate ones using their professional judgment and the practice available locally and nationally.

Clarity about the purpose of an indicator is an essential starting for assessing its usefulness as the case of indicator no. 7 (Unemployment rate) shows: if the indicator is selected to provide information about VET arrangements and the performance of VET providers, then more appropriate measures than the unemployment rate are needed, particularly output/outcome measures such as indicator no 5 (Placement rate in VET programmes) and indicator no. 6 (Utilisation of acquired skills at the workplace). However, this indicator should be used to give background information for policy decision-making and that is the reason why it is labeled as a "context indicator" in the EQAVET Recommendation.

This **Guide** is available in a PDF format and it is also hyperlinked to the web resource tool on the EQAVET site <http://www.eqavet.eu/gns/home.aspx>

The ***VET providers' self-monitoring by using the EQAVET toolbox of indicators (a Guide for QA National Reference Points)*** is organized as follows:

Section I: Background and context

This Section aims to give the background and the context against which the **Guide** has been developed, particularly the role that the European cooperation has been playing in the field of Education and Training since the launching of the Lisbon strategy in 2000. It also highlights some of the issues that VET providers need to address if they are either initiating or resuming their journey towards quality improvement by using the EQAVET set of indicators.

Section II: Outlining the VET provider's self-monitoring process

This section presents the conceptual and operational outline for monitoring quality assurance by using the EQAVET set of ten indicators. It describes the context for the development of the Guide, particularly the inter-connected nature of the EQAVET Quality Cycle at system and VET providers' level.

Section III: Exploring the self-monitoring cycle

This is the main section, where the four steps of the self-monitoring cycle, replicating the **EQAVET Quality Cycle**, is explored through the use of guiding questions. In this section, the four steps are described as distinct, but they are intended to be cyclical. At the core of this data-driven decision-making process, the steps focus users on the indicators and guide them through a process that supports informed decisions on the basis of the EQAVET indicators.

This section provides practical guidance on the planning, organization and conduct of the self-monitoring process focused on results (outputs and outcomes) as measured by indicators. The four VET dimensions under exploration are organized following the major content strands as encapsulated in the set of ten EQAVET indicators which are pertinent to the providers' journey into their VET quality assurance and quality improvement.

Section IV: Case studies

This section provides stories of how VET providers Europe-wide have transitioned through a focus on ensuring the quality of their provision by national standards to a focus on ensuring the quality of their provision by also using the EQAVET **i**ndicative descriptors and indicators.

SECTION I
BACKGROUND AND CONTEXT

Background and context

A rapidly changing global economy and concerns about the EU ability to create a competitive workforce have focused attention on the education and training systems of the European Member States, highlighting their critical role in ensuring a prosperous future for Europe.

As a result, education and training systems at local, regional/national level are expected to perform better than ever before in preparing all learners to meet rigorous educational and training requirements for postsecondary education and the workplace.

In the European Union, Quality Assurance (QA) in Vocational Education and Training (VET) is a multi-tired process: it is recommended at European level, often mandated at the national /regional level and reinforced at the VET providers' level through internal policies and processes. The *Recommendation of the European Parliament and of the Council on the establishment of a **European Quality Assurance Reference Framework for Vocational Education and Training*** [Official Journal C 155 of 8.7.2009] builds on achievements resulting from European cooperation in this area since 2002 (Copenhagen Process).

On the other hand, the Framework forms part of a series of measures designed to support continuous improvement of the quality and governance of VET systems, namely the European Qualifications Framework for Life Long learning (EQF)⁸, the European Credit System for VET (ECVET),⁹ and the common European principles for the identification and validation of non-formal and informal learning. Thus, the Framework aims to strengthen the confidence of stakeholders across Europe in VET provision by building on a strong base of transparency, openness and engagement to ensure that high quality VET is delivered.

In this context, it seems appropriate to remind that the ***European Quality Assurance Reference Framework for Vocational Education and Training (EQAVET Framework)*** seeks to stimulate¹⁰

- ☑ the creation of more developed and consistent quality assurance and improvement systems across countries, to contribute to increased effectiveness of training and thereby to enhance the status of VET in the European Union;
- ☑ increased transparency of quality assurance and quality improvement systems and approaches in VET, to improve mutual trust and facilitate mobility;
- ☑ co-operation and mutual learning, to foster stakeholder involvement in a culture of quality improvement and accountability at all levels.

Moreover, the **EQAVET Framework** is grounded on the principle that quality assurance applies across all levels of the system and involves a collective responsibility to work together with all relevant stakeholders to improve VET. Each level of the system has, therefore, a distinct and important role to play in its implementation, i.e. by developing complementary processes that can serve as a catalyst for change and VET improvement.

⁸ *Recommendation of the European Parliament and of the Council of 23 April 2008 on the establishment of the European Qualifications Framework for lifelong learning*
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2008:111:0001:0007:EN:PDF>

⁹ *Recommendation of the European Parliament and of the Council of 18 June 2009 on the establishment of a European Credit System for Vocational Education and Training (ECVET)*
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2009:155:0011:0018:EN:PDF>

¹⁰ Commission staff working document [SEC(2008) 440COM(2008) 179 final]

Why should VET providers care for Quality Assurance?

Traditionally, it was assumed that goals and objectives of education and training were clear and consensus to all and, consequently, education quality was an inherent component of education and training systems.

Since the turn of the century into the new millennium, however, there have been strong impacts from economic globalization and information technology and ever-increasing social-political demands on the different regions of the world, namely on the European Union (EU) and its Member States.

Facing up these impacts and challenges, reforms have been initiated in Europe, in terms of education and training quality, stakeholders' satisfaction, and market competitiveness, with most policy efforts aiming to ensure quality and accountability to the internal and external stakeholders. At European level, the critical element in the new paradigm is the need to create mutual trust and recognition of qualifications across systems and Member States in order to facilitate mobility. This a) implies that the improvement of existing VET providers and practices at different levels need to meet stakeholders' needs and expectations and b) involves an organisation holding up a mirror to itself and assessing how it is doing, as a way of learning and improving practice.

Why should VET providers use a Quality Assurance Framework?

A Quality Assurance Framework, namely EQAVET, allows local, regional/national authorities as well as local VET providers to look at their strengths and weaknesses and continuously improve their VET (sub) systems and the quality of VET provision.

When planning to implement a quality assurance system, or are planning to align their QA system to the EQAVET Recommendation, NRPs will find it helpful to use the indicative descriptors¹¹ to assess the current standing of their systems. This guide focuses on the use of indicators as part of an effective QA system, and should be used as part of a holistic approach to implementing the Recommendation. NRPs will continue to find the indicative descriptors useful to assess the progress of the implementation of their QA systems, of which the use of indicators should play a central role.

VET providers, in particular, can gain the following benefits:

- ☑ more **effective and more efficient** VET sub-systems at local level;
- ☑ **better quality** of VET provision for users;
- ☑ **better communication** among VET key stakeholders;
- ☑ **increased motivation** for VET learners, staff and other stakeholders;
- ☑ **greater credibility and legitimacy** with VET stakeholders, in particular national authorities and employers;
- ☑ **more creative thinking**, enabling new perspectives and ways of working, particularly in addressing such complex issues as learners' drop out and responding to new labour market needs;
- ☑ **organizational learning**;
- ☑ **continuous improvement** of VET over time rather than compliance with a given standard.

¹¹For further details please see <http://www.eqavet.eu/qa/tns/building-your-system/planning/descriptors-list.aspx>

It is a fact, however, that VET providers across Europe are at different points in terms of confidence with QA systems/approaches/ mechanisms and in terms of their trajectories of improvement.

Why should VET providers do self-monitoring?

The quality and effectiveness of VET at providers' level is determined by the extent to which confidence and expertise in self-monitoring permeates the organizational culture of providers. In some instances, self-monitoring may be functioning (very) well, while in other instances it may be either embryonic or even inexistent.

A very important point is to recognise that self- monitoring cannot miraculously make changes without a lot of hard work being put in by the VET provider. In itself, self- monitoring is not a solution, but it is a valuable tool for VET providers to

- ☑ **Review progress** , e.g. it raises questions about the VET providers' assumptions and strategies;
- ☑ **Make adjustments** so that they are more likely to "make a difference" in the sector, e.g. it pushes VET providers to reflect on where they are going and how they are getting there
- ☑ **Identify problems** in planning and/or implementation of their provision, e.g. it provides VET providers with information and insight
- ☑ **Act on the information** and insight, e.g. by deciding on what needs to be done and how it needs to be done.

What is the purpose of the *Guide on self-monitoring for VET¹² providers by using the EQAVET tool-box of indicators?*

The **Guide** is developed according to the **EQAVET Framework** and its core purpose is to point out how VET providers can use the EQAVET indicators and how the data gathered for each indicator need to be transformed into information to be used in the decision making process within the VET providers' quality assurance actions.

National Reference Points should, therefore, use this tool with flexibility and align it with the self-monitoring mechanisms of VET providers at national level and VET providers-based factors. In other words, NRPs need to build on and utilise what VET providers have already developed and have in place in relation to data collecting systems. VET providers can also report to key stakeholders of their self-monitoring results and data so as to enhance the transparency of their work.

Who are the target users?

The **Guide** is intended to help the NRPs to support VET providers in how to develop and apply a self-monitoring process for strategic improved decision- making, organizational learning and sound management. It is based on the EQAVET set of ten indicators and it is meant to be a tool for the monitoring of the quality of VET at provider level. This resource aims, therefore, to facilitate collaboration by highlighting the key elements of a multi-stakeholder improvement process.

This **Guide** is not complete, however, if it is solely based on the quantitative data as generated by the ten EQAVET indicators. In reality, a balance needs to be found between indicators and the indicative descriptors at VET provider level as proposed in the Recommendation for each phase of the EQAVET Quality Cycle.

In brief, this guidance on VET providers' self-monitoring is primarily intended

¹² VET is used for Vocational Education and Training according to the existing convention.

- To provide practical guidance to National Reference Points on monitoring and evaluation, namely on VET providers' self-monitoring to help them support the implementation of the EQAVET Recommendation at VET provider level
- To strengthen the monitoring and evaluation function and capacity of VET providers for the purpose of improving their policies, programmes and enhance organizational learning.

How should the National Reference Points use the GUIDE?

Whatever the situation may be in the different Member States, the main challenge for VET systems and VET providers in Europe is to embed the EQAVET approach to quality¹³ as an integral aspect of VET provision, permeating the thinking and practice of VET decision makers and teachers/trainers.

The ***VET providers' self-monitoring by using the EQAVET toolbox of indicators (a Guide for QA National Reference Points)*** should be used in conjunction with

1. The *Recommendation of the European Parliament and of the Council of 18 June 2009 on the establishment of a European Quality Assurance Reference Framework for Vocational Education and Training*;
2. *EQARF indicators, reviewing and agreeing definitions*, 2009
<http://www.eqavet.eu/gns/library/publications/2009.aspx>
3. The ***EQAVET Indicators' Toolkit***, available at
http://www.eqavet.eu/Libraries/Working_Groups/EQAVET_Indicators_Toolkit.sflb.ashx

What is the scope of the GUIDE?

It is inevitable that the implementation of the Recommendation will need refinement as practice moves forward and obstacles are encountered. Like any innovation, it is a learning process which, in the present case, will be mediated by the NRPs at Member State level.

The ***Guide***'s primary target group is the NRPs. More specifically, it is intended to help NRPs in assisting their VET providers in designing their self- monitoring activities in order to demonstrate the effectiveness of their provision and to help them know how to improve it by using the EQAVET indicators.

Ultimately, NRPs will need to adapt this guidance to their national contexts in advising their VET providers to use self- monitoring as a consistent, ongoing collection of data and analysis of information in decision- making and in reviewing their VET provision. But every country will need to address a number of challenges, namely

- How can countries bring into line their national/regional /local VET goals and the European goals for VET improvement?
- How might the existing system ensure that monitoring and evaluation meet the variety of stakeholders' needs for information?

¹³ [...] strong emphasis to monitoring and improving quality by combining internal and external evaluation, review and processes for improvement, supported by measurement and qualitative analysis. In Preamble to the Recommendation of the European parliament and of the Council on the establishment of a European Quality Assurance Reference Framework for Vocational Education and Training.

In addition, however, it is hoped that this **Guide** will also be useful to a much wider audience of VET providers, teachers/trainers and other relevant stakeholders, in short, anyone who may ask, or be asked, “How good is our local VET provision?”

SECTION II

OUTLINING THE VET PROVIDERS' SELF-MONITORING PROCESS

RATIONALE

VET provider's self –monitoring by using the EQAVET indicators

The EQAVET Framework is based on quality criteria, indicative descriptors and a set of ten indicators (formulated in the light of the stated aims in the Recommendation¹⁴) to provide tools for the assessment of VET Quality Assurance (QA). Moreover, these indicators are also linked to the three policy objective priorities in Vocational Education and Training at European level i.e. increasing **employability**, improving the match between **demand and supply**, and **better access** to lifelong learning/ training, in particular for vulnerable people.

The Framework is built on interacting and transparent quality assurance processes, namely **Monitoring and Evaluation (M&E)**, which are simultaneously integral and individually distinct parts of the EQAVET Quality Assurance Cycle.

M&E strengthen the basis for managing for results, foster learning and knowledge at VET provider and system level. The application of indicator-driven monitoring and evaluation is, by definition, a process of continuous improvement. In designing their self-monitoring VET providers need to consider the goals of their VET provision, a set of questions and the approaches to data collection/analysis (i.e. qualitative data, quantitative data or both) in order to create a responsive self –monitoring design.

The **EQAVET Quality Cycle** is applied here for a specific action, namely the VET providers' self-monitoring process by using the EQAVET indicators. It was, however, adapted to illustrate the inter-connected nature of the four steps in a VET providers' self- monitoring process by using the EQAVET indicators as a transversal element (see Figure no. 1 below). This approach is used for both conceptual and pragmatic reasons, i.e. in this way, the notion of a cyclic process to ensure VET quality and improvement as stated in the Recommendation is both used at the macro level (i.e. system level) and at the micro level (i.e. VET providers' level).

The cornerstone of the "quality cycle" rests on M&E as the entry point to learn about VET provision as a means to help the providers respond to the demands of the labour market while maintaining a focus on quality.

As VET stakeholders, namely the NRPs, intersect these two levels, they can see a more vivid picture of their VET landscape in general and, particularly, of the state - of-the art as far as the implementation of the EQAVET Recommendation is concerned.

An important point to bear in mind, however, is that there is no perfect design for a M&E system because there are always trade-offs in terms of time, cost and depth of data collection and analysis. However, if these constraints are acknowledged and adequately managed their impact may be mitigated and consequently a VET environment, which is quality committed, may be put in place.

¹⁴ "To further improve and develop their [Member States] VET systems, support lifelong learning strategies and the implementation of the EQF and of the European Quality Charter for Mobility, and promote a culture of quality improvement and innovation at all levels."

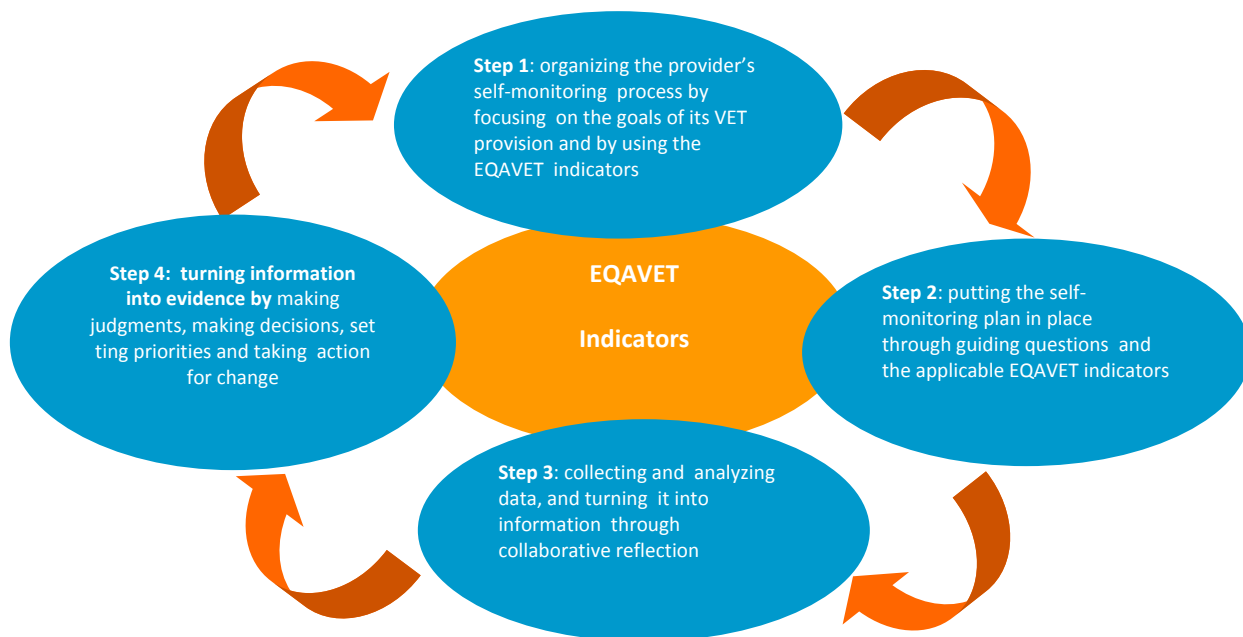


Figure no. 1 The self-monitoring cycle: VET providers' self-monitoring by using the EQAVET indicators

But the VET provider is already part of an evaluation ...

The application of monitoring and evaluation is, by definition, a process of continuous improvement. If the VET provider is a school, an organisation or an individual that provides VET services, it already may be gathering data. National/regional VET systems and organizations collect data and draw conclusions about types of interventions as a whole. Even if the VET provider is already participating in a broader data collection effort, it will find the process outlined in this guide useful because it is both complementary to that effort and tailored to the EQAVET Recommendation. Moreover, the VET provider may find that there is substantial overlap between data collected to satisfy broader requirements and data collected for the VET provider's self-monitoring through the use of the EQAVET indicators.

It is also worth reminding that there are no "quick fixes" in assuring quality in VET and that self-monitoring capacity building needs a comprehensive, long-term focus backed by appropriate resources and support.

In any event, what really matters is that a continuous improvement process for using data is in place. Data can help VET providers identify needed improvements and inspire ideas for change to meet those needs and thus ensure the quality of their provision. Once changes are made, data will provide information to monitor their impact and help VET providers to sustain the quality of their efforts.

In order to traverse this territory, VET providers may find useful to consider the following tips:

General tips for VET provider's self- monitoring

1. Build self- monitoring into the implementation of the EQAVET Quality Assurance process from the beginning
2. Negotiate between stakeholders to decide what to self- monitor and keep them aware of the process and results of the exercise
3. EQAVET indicators should be clearly understood and commonly interpreted by all stakeholders
4. Identify a data collection system/procedure for inputs, outputs and outcomes as encapsulated in the EQAVET indicators
5. Record information in sufficient detail to provide for improvement actions , future evaluations and illustrate accountability
6. Check that results are directly linked to the stated objectives and other factors which may have a major/key influence in the process
7. The process is only complete once evidence has been put to use, e.g. in planning for improvement and in reporting on quality.

Table no. 1 General tips for VET provider's self- monitoring

SECTION III

EXPLORING THE SELF-MONITORING CYCLE: FROM THE ORGANIZATION OF THE PROCESS TO TAKING ACTION FOR CHANGE

STEP 1: Organizing the VET provider's self-monitoring process

To effectively evaluate any policy, programme or, as in this case, to monitor and reorient VET provision, it is necessary to develop an overall M&E plan. A common failing for a monitoring process is that the only reference to M&E is the list of indicators which in itself does not provide enough information to guide the actual improvement of VET.

But, if people tend to focus on data collection when starting a self-monitoring activity, how will VET providers know what activities and which data are going to be most relevant and useful? Connections between desired goals, planned activities, and indicators selected for their measurement need to be established so VET providers can focus the monitoring process on important questions.

Self-monitoring looks for “what is going well” and “what do we need to improve” in terms of progress towards the intended results. VET providers should be suggested to ask such questions as

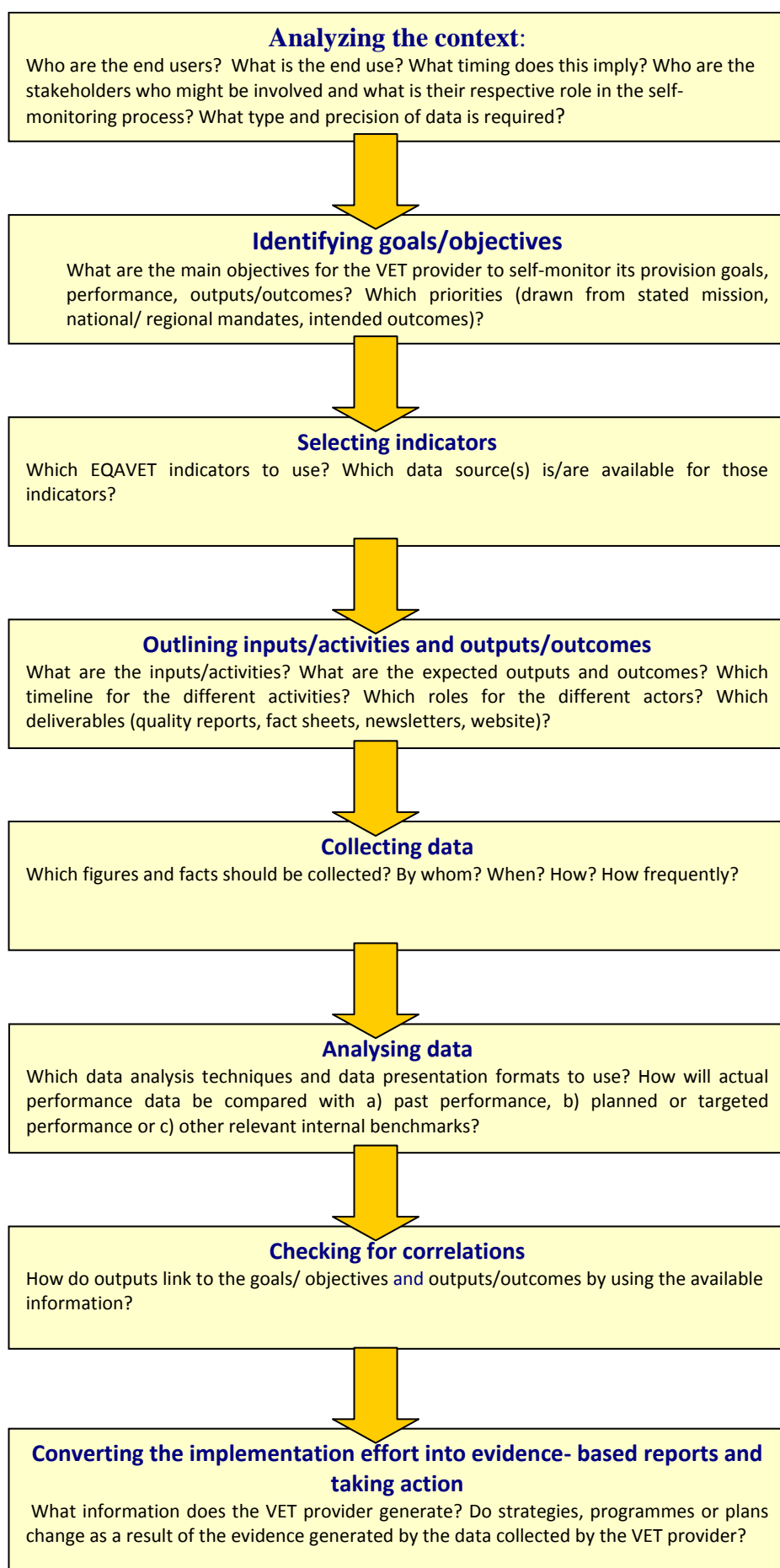
- **How are we going? What are we doing well? What do we need to improve? Where do we want to be? How and when will we get there? Who do we need to talk to? What evidence/ data are being collected and what additional information would be useful to inform planning?**

Setting the stage for purposeful self-monitoring

In preparing for self-monitoring, VET providers may consider the methodology as represented in the flowchart below (Figure no. 2), which illustrates a sequence of the very first basic steps in organizing the process for VET providers' self-monitoring.

Moreover, in planning the monitoring activity the VET provider needs

- ↪ **Coordinating** communication among stakeholders about the self-monitoring activity to build interest, understanding and willingness to participate and accept the result
- ↪ **Overseeing** progress
- ↪ **Integrating activities** across VET provision and sectors whenever possible to reduce costs.



Operationalizing the data collection

Discussion of how data will be collected is an important part of the self-monitoring plan. In deciding on the best way to collect data, it is important to consider whether the exercise is intended to call for quantitative, qualitative information or both. The main principle to inform any collection of data is, however, “collect once, use many times” and thus contribute to the improvement of the in-house capacity to collect data and achieve higher quality information; and in due course achieve better VET learners’ outcomes.

Indicators and the collection of data

The set of indicators in the EQAVET Recommendation have been developed to help decision makers and VET provider’s measure outcomes and demonstrate the improvement achieved. It is worthwhile recalling, however, that in line with the Recommendation “The Framework should be regarded rather as a ‘toolbox’, from which the various users may choose those descriptors and indicators that they consider most relevant to the requirements of their particular quality assurance system.”

In organizing their collection of data for the EQAVET set of indicators, VET providers need to look into what data collection procedures are already in place, either locally or at regional/ national level, in order to adapt it adequately and, by doing so, avoid duplication of efforts. In other words, a data collection system should be set up in such a way that it allows VET providers to take informed decisions on the quality of the training they provide and serve, as much as possible, for various reporting exercises.

A data gathering system at VET provider level is just not a compliance system that will feed the regional or national authorities more data. A data system at VET provider level has the potential to make quality, timely data available to all relevant stakeholders to help them improve learners/trainees’ achievements and leverage significant VET change. This can be encapsulated in a very simple formula, that is,

Better data + Deeper questions + More informative answers = Enhanced Vocational Education and Training.

In any event, some questions are crucial in orienting providers in their effort to get the raw data, to analyse, use and store it. Ultimately, VET providers should be able to ensure that the data are of high quality so that they themselves and other relevant stakeholders may leverage them with confidence for data- driven decision making. (See Figure no. 3 below)

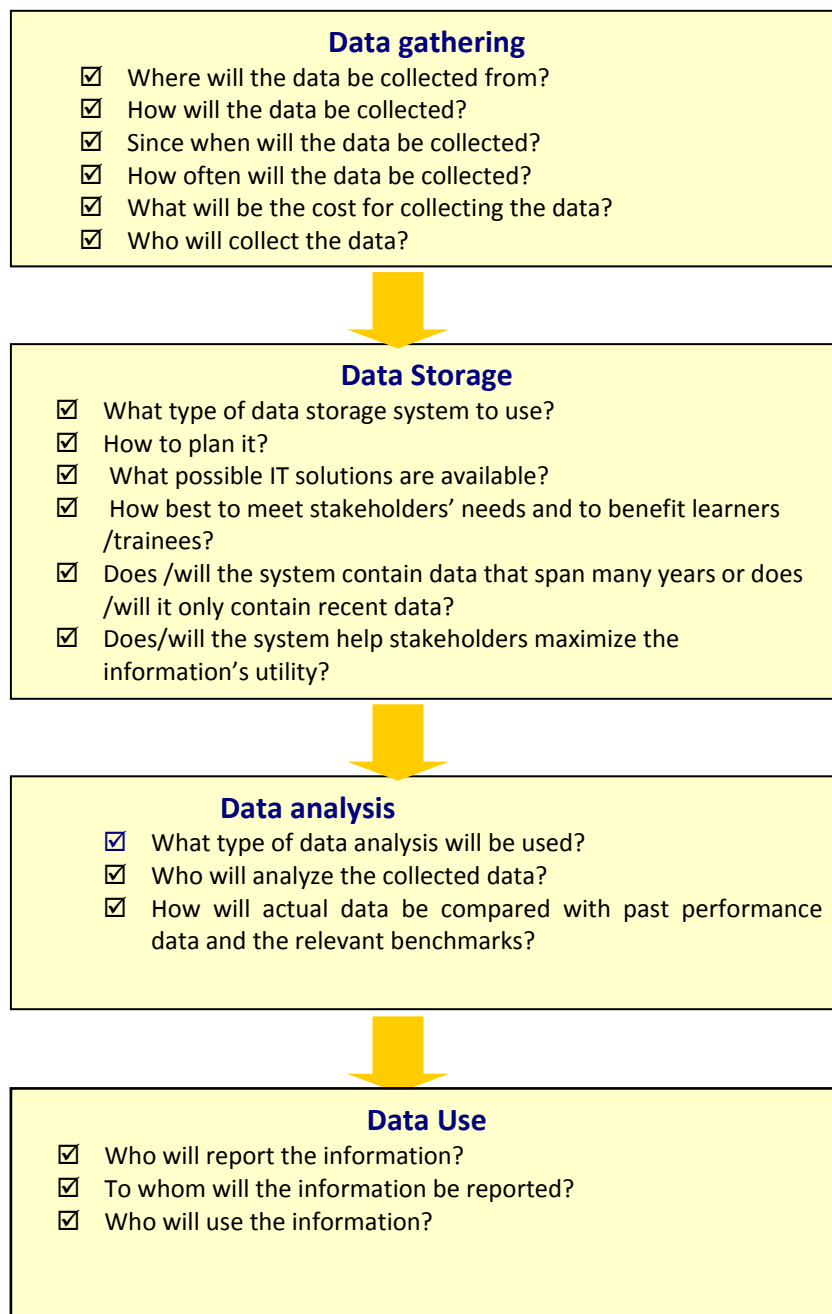


Figure no. 3 Basic questions in operationalizing data gathering

A table like the one shown below (Table no.2) may be helpful in outlining questions that need to be addressed when collecting data to a set of indicators. Note that the plan format requires that the questions be answered for each one of the nine EQAVET indicators. It is also relevant to underline the fact that EQAVET indicator no. 7 (Unemployment rate) is a useful background indicator for VET providers but its data is mostly collected by national/regional statistical offices.

EQAVET indicators	Where will the data be collected from?	How will the data be collected?	Since when and how often will the data be collected?	What will be the cost for collecting the data?	Who will collect the data?	What type of data analysis will be used?	Who will analyze the data?	Who will report the information and to whom?	Who will use the information?
No. 1									
No. 2									
No. 3									
No. 4									
No. 5									
No. 6									
No. 7									
No. 8									
No. 9									
No.10									

Table no. 2 Plan to organize the collection of data on the set of EQAVET indicators

Quality criteria for data collection

When data for indicators are collected by VET providers, quality is a concern that needs to be addressed. A comprehensive self-monitoring activity typically includes analyzing quality criteria, particularly when organizing the **collection of data**. However, these criteria of quality are overlapping and interrelated, that is, only by addressing managing and balancing these elements of quality over time with careful attention to program objectives, costs, and other factors will an acceptable level of quality be achieved. The type of questions that can be asked for each criterion is illustrated below (Table no.3).

QUALITY CRITERIA	SUGGESTED QUESTIONS
Accuracy	Is the data collected correct and complete? Are the data entry procedures reliable?
Efficiency	Are the resources used to collect data the most economical manner to achieve its objectives?
Effectiveness	Have the objectives been achieved? Have the specific results planned been achieved? To what extent are partners maximizing their comparative advantage?
Feasibility and timeliness	Can data be collected and analysed cost-effectively? Can it provide current information in a timely manner?
Relevance	What is the relevance of the data/information/evidence in relation to other primary stakeholders' needs, e.g. national authorities, VET provider's strategic objectives, employers' needs, trainees' needs and satisfaction? Is it compatible with other efforts? Does it complement, duplicate or compete?
Security	Is the confidentiality of learners' and staff records ensured?
Utility	Does data provide the right information to answer the question that is asked?

Table no. 3 Quality criteria for data collection

STEP 2: Putting the VET provider's self-monitoring plan in place

The EQAVET approach of **input-output-outcome** provides a way of turning what might be an *ad hoc* collection of data into **indicators**, i.e. it characterises and relates the key aspects of VET to each other and assists both the interpretation of data and its use as evidence. The following questions may be useful at this stage:

What dimensions of VET provision do EQAVET indicators cover? What questions do VET providers need to ask about those dimensions? What questions do VET providers need to ask on specific aspects of these dimensions?

VET is a complex entity which the EQAVET Framework attempts to translate into an eclectic typology of indicators and multiple measures of data as illustrated below.

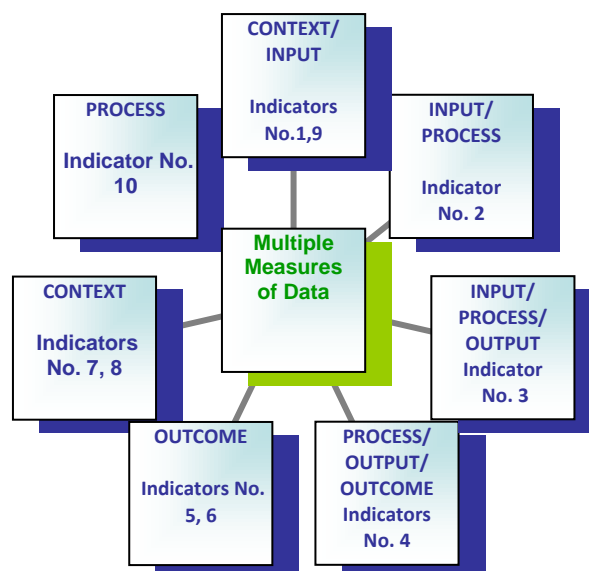


Figure no. 4 Types of EQAVET indicators and the multiple measures of data

The above figure also shows that the set of ten indicators are interlocking and exercise a mutual impact on each other and, hence, VET providers need to be focused and adopt a holistic approach in evaluating their work. However, given the variations in their type of provision (e.g. IVET, CVET), their pace of development and their learners' background, VET providers need to take in full consideration their own context when using the EQAVET indicators, in line with the general principle that self-monitoring is VET provider -specific and goal-oriented.

The unemployment rate (indicator 7) is a useful background contextual indicator for VET because it can provide important and relevant information, particularly in relation to CVET. Unemployment rate is, however, a complex measure influenced by multiple factors. At the macro level the unemployment rate does not provide sufficient detail for VET providers to engage with this indicator at the provider level. The unemployment rate would therefore need to be specified at a local, sectoral level specific to the VET provider to enable this utility. For example, other indicators in the set such as the indicators 6 and 9 ([Utilisation of acquired skills](#)

[at the workplace](#)) and ([Mechanisms to identify training needs in the labour market](#)) are thus more suited to the VET provider with respect to aiding the VET provider directly to improve the employment prospects of learners.

Layout and content of STEP 2

The EQAVET indicators are a helpful tool in evaluating the quality of VET provision systematically across four dimensions of VET provision: **1. Management and Organization, 2. Delivery of VET provision, 3. VET learners' achievement and performance** and **4. Meeting VET stakeholders' needs**. In order to explore the use of the indicators as adequately as possible, these four dimensions are explored one by one following the same format. Guiding questions, which are meant to unpack these issues, are organized in two different but interrelated levels, i.e. **General questions** and **Specific questions**. While the questions are not exhaustive they can assist the VET provider to think about 'how' and 'why' things are done that way whilst reflecting upon specific issues to determine the effectiveness of the VET practice to its stakeholders.

It is suggested that VET providers use them as pointers, that is, as the starting point for their approach and inquiry in stimulating reflection and discussion among the relevant stakeholders. See the summary below (Table no. 4)

■ 1. Management & Organization of VET

Rationale: to introduce *Management & Organization of VET provision*

Guiding questions: a) general questions and b) specific questions to uncover both main and specific issues embedded in this dimension of VET

Applicable EQAVET indicator(s): to measure performance of the provider in this dimension of VET provision, i.e.

EQAVET indicator no. 1

<http://www.eqavet.eu/qa/gns/home.aspx>

■ 2. Delivery of VET provision

Rationale: to introduce the *Delivery of VET provision*

Guiding questions: a) general questions and b) specific questions to uncover both main and specific issues embedded in this dimension of VET

Applicable EQAVET indicator(s): to measure performance of the provider in this dimension of VET provision, i.e.

EQAVET indicator no. 2

http://www.eqavet.eu/qa/tns/monitoring-your-system/evaluation/indicator_2.aspx

EQAVET indicator no. 3

http://www.eqavet.eu/qa/tns/monitoring-your-system/evaluation/indicator_3.aspx

EQAVET indicator no. 8a

http://www.eqavet.eu/qa/tns/monitoring-your-system/evaluation/indicator_8.aspx

■ 3. VET learners' achievement and performance

Rationale: to introduce *VET learners' achievement and performance*

Guiding questions: a) general questions and b) specific questions to uncover both main and specific issues embedded in this dimension of VET

Applicable EQAVET indicator(s): to measure performance of the provider in this dimension of VET provision

EQAVET indicator no. 4

http://www.eqavet.eu/qa/tns/monitoring-your-system/evaluation/indicator_4.aspx

EQAVET indicator no. 5

http://www.eqavet.eu/qa/tns/monitoring-your-system/evaluation/indicator_5.aspx

EQAVET indicator no. 6

http://www.eqavet.eu/qa/tns/monitoring-your-system/evaluation/indicator_6.aspx

EQAVET indicator no. 8b

http://www.eqavet.eu/qa/tns/monitoring-your-system/evaluation/indicator_8.aspx

■ 4. Meeting VET stakeholders' needs

Rationale: to introduce *Meeting VET stakeholders' needs*

Guiding questions: a) general questions and b) specific questions to uncover both main and specific issues embedded in this dimension of VET

Applicable EQAVET indicator(s): to measure performance of the provider in this dimension of the VET provision

EQAVET indicator no. 9

http://www.eqavet.eu/qa/tns/monitoring-your-system/evaluation/indicator_9.aspx

EQAVET indicator no. 10

http://www.eqavet.eu/qa/tns/monitoring-your-system/evaluation/indicator_10.aspx

Table no. 4 Layout and content of Step 2

1. MANAGEMENT AND ORGANIZATION OF VOCATIONAL AND TRAINING PROVISION

Rationale

A VET provider's quality management and organisation are built on two key factors, namely good **Leadership** and **Management**. Effective leadership creates a positive organisational culture that values trust, where people are motivated to ask questions, debate issues and contribute to each other's ongoing learning and inquiry. Quality VET leadership and management and organization serves to enhance the effectiveness of the other three stages of the EQAVET quality cycle.

In order to promote quality improvement in their VET provision, to realize their mission and to make their institution a learning organization, VET providers need to put in place measures to monitor the implementation of their work and evaluate its outcomes through an effective quality assurance approach/mechanism/system. To achieve the best outcomes the VET provider needs to offer a skilled workforce, effective budgeting and financial accounting processes, sound administrative systems and an appropriate learning environment.

Reporting on the VET provision to the relevant stakeholders should be included for the purpose of enhancing transparency and accountability. Particularly relevant for the management and organization of the self-monitoring process is the compatibility of the VET providers' quality assurance approach/mechanism /system with the EQAVET Recommendation.

General Questions

- Does the VET provider have a quality assurance approach/ mechanism /system in place? If yes, is it doing what it sets out to do?
- Is the provider's system compatible with the EQAVET Framework?
- Do the VET provider's procedures and practices align with its internal quality assurance approach/mechanism/system and the EQAVET Framework?
- How is the leadership in the VET provider contributing to the development of a positive organisational culture?
- How responsive is the VET provider's delivery to the relevant stakeholders' needs, aspirations, interests and concerns?
- To what extent are key and primary stakeholders involved in contributing to the vision and direction of the VET provider?
- Is the VET provider accredited, i.e. is it formally recognized as competent to carry out its specific tasks?
- Does the VET provider management (both top and middle management) have strong commitment to driving the VET provider's sustained improvement?
- How does a VET provider systematize the communication process (both strategic process and evaluation process) with its stakeholders?
- How does a VET provider communicate its vision and strategic priorities with the staff to ensure the commitment, i.e. what processes, what forums are used?
- Has the VET provider determined its core processes? If so, which are they?
- Have the roles and responsibilities (both internal and external) been determined? If so, which are they?

Specific Questions

Planning

- Is due attention paid to Quality Assurance, particularly to the EQAVET *Recommendation* in the management of the VET provision? If yes, how?
- Does the VET provider formulate appropriate improvement priorities, taking into account its mission and vision, VET learners and other users' needs and self-monitoring findings?
- How can the VET provider improve its planning in view of the self-monitoring findings?
- How does the VET provider, in the light of identified priorities, formulate clear and concrete implementation strategies to promote VET improvement?

Implementation

- Is the VET provider able to monitor the implementation of its improvement priorities?
- If so, how does the provider intend to implement those priorities?
- Is the VET provider able to enhance collaboration among stakeholders for the realization of the improvement plans?
- Which strategies does the provider use to enhance collaboration among stakeholders?
- What can the VET provider do to improve its plan?
- Are the different roles and responsibilities of staff involved in the QA process clear and understood? If not, what can be done to improve the situation?

Evaluation and Review

- How does the VET provider use the self- monitoring findings to shape its planning for the next round of the quality assurance cycle?
- How does the VET provider inform the stakeholders of its performance?
- Is the VET provider able to foster a culture of self-monitoring? If yes, how?

Applicable EQAVET Indicators: indicator no. 1 and its related indicators

Indicator no. 1

Relevance of quality assurance systems for VET providers:

(a) share of VET providers applying internal quality assurance systems defined by law/at own initiative

(b) share of accredited VET providers

For the operational definition and further information, namely related indicators, please see

http://www.eqavet.eu/qa/tns/monitoring-your-system/evaluation/indicator_1.aspx

2. DELIVERY OF VOCATIONAL EDUCATION AND TRAINING PROVISION

Rationale

Quality provision promotes individuals' learning, supports and increases their employability, and improves responsiveness of VET to the changing demands in the labour market. This should be undertaken with a view to enriching individuals' learning experiences and helping them to consolidate their knowledge while fostering their competences and improving their access to lifelong learning.

VET providers need to make every effort for learners to engage in the learning/training process by offering attractive programmes and by encouraging learners/trainees, including disadvantaged groups, to actively participate and successfully complete their VET programmes. Teachers/trainers are pivotal to such processes and thus to reap better returns from their investments in teacher/trainer further training programmes, VET providers need to make stronger links between their strategy and objectives, and their training and improvement plans and initiatives.

Guiding questions

General questions

- Does the VET provider align the planning of its programmes with national, local and/or the European VET policy?
- If the VET provider does it partially, which of those dimensions are covered and which ones are not covered yet?
- Does this provision match with the recent trends in VET development, particularly the changing demands in the labour market?
- In what ways is the provision organized to respond to the need for adapted training provision, including for disadvantaged groups?
- Does the VET provider formulate its programme improvement plans in line with the short, medium and long-term goals of the national/regional and the European VET policies?

Specific questions

Teachers and trainers' training

- Does the VET provider cater for teachers/trainers' further training in relation to their learners' achievement?
- Are teachers/trainers engaged in professional learning activities that address specific issues, e.g. adapted training provision, including for disadvantaged groups?
- How effectively has the VET provider collaborated with industry, business, or the wider community in taking decisions about the further training of its teachers/ trainers?
- To what extent has the VET provider catered for professional learning opportunities to enhance staff knowledge and understanding of the changing demands of the labour market?
- Have the views of staff and/or learners been taken into account when planning staff training and development?

- What kind of mechanisms do VET providers use to recognise the strategic competences, i.e. how do VET providers identify what competences are needed to implement the chosen strategy?
- Do providers align human resource development activities with strategic goals and core processes?
- Is the further training of teachers/trainers organized in relation to the strategic needs of the VET provider? If so, how?
- Is the strategy-oriented competence development of teachers and trainers a systematic process? If so, how?

Participation in VET programmes

- Can any connections be made between the levels of learners' participation in VET programmes and the attractiveness of those programme(s)? If not, why not?
- Is there any relationship between the levels of participation in programmes and learners' achievement levels? If not, why not?
- What are the emerging trends in the participation in VET programmes?

Applicable EQAVET indicators: indicators no. 2, 3, 8a) and their related indicators

Indicator no. 2

Investment in training of teachers and trainers:

- (a) share of teachers and trainers participating in further training
- (b) amount of funds invested

For the operational definition and further information, namely related indicators, please see

http://www.eqavet.eu/qa/tns/monitoring-your-system/evaluation/indicator_2.aspx

Indicator no. 3

Participation rate in VET programmes: Number of participants in VET programmes, according to the type of programme and the individual criteria

For the operational definition and further information, namely related indicators, please see

http://www.eqavet.eu/qa/tns/monitoring-your-system/evaluation/indicator_3.aspx

Indicator no. 8

Prevalence of vulnerable groups:

a) Percentage of participants in VET classified as disadvantaged groups (in a defined region or catchment area) according to age and gender;

For the operational definition and further information, namely related indicators, please see

http://www.eqavet.eu/qa/tns/monitoring-your-system/evaluation/indicator_8.aspx

3. VOCATIONAL EDUCATION AND TRAINING LEARNERS' ACHIEVEMENT AND PERFORMANCE

Rationale

The economic engine of the 21st century is generally described as feeding on the skills and knowledge of its workers. This was recognized by the European Council (2000) when it set the strategic objective for the European Union to become the world's most dynamic knowledge based economy. Within this remit, individuals who do not have the required skills and the right education/training risk being left behind in the knowledge-based economy. That accounts for the fact that Education and Training is perceived as the most important measure of public policy to enhance the employability of individuals.

In 2002, the development of high quality vocational education and training was seen as a crucial and integral part of the European strategy, particularly in terms of promoting social inclusion, cohesion, mobility, employability and competitiveness (the "Copenhagen process"). In this context, particular attention is due to be paid to disadvantaged groups/ groups at risk in order to integrate them into labour market and to raise the awareness of society in general regarding their employability.

It follows that the core business of VET providers is the performance of VET learners. To that end, providers should offer individuals and groups the opportunity to engage in the learning/training process. The focus of VET providers' should be to deliver attractive programmes and encourage learners, including disadvantaged groups, to actively participate and successfully complete their programmes. VET providers need therefore to look at their learners' achievement and performance in the areas of a) programme completion b) progressing to further training or getting a job and c) utilising the acquired skills/competences at the workplace.

On the basis of learners' performance in the above areas, VET providers can better understand individuals and groups' needs and evaluate the effectiveness of performance in other key areas.

General questions

- How well are different groups of VET learners achieving and progressing compared to other groups in the VET organization and similar groups at regional/national level?
- How well are learners developing their skills/competences, including new skills as demanded in the labour market?
- How robust is the information gathered by the VET provider for making judgements about its provision?
- How well is the information used by teachers/trainers in improving their learners' achievement and performance, including the disadvantaged groups?

Specific questions

Completion of VET programmes

- Do different groups of learners with diverse needs successfully complete their VET programmes, including disadvantaged groups? If not, what can the VET provider do about it?
- Do learners fail to complete VET programmes? If so, why?
- What do completion rates and other data, e.g. placement rate, tell about the VET provision?

- What are the emerging trends in programme completion, including the disadvantaged groups?
- In what ways can the VET provider use this evidence to improve the situation?

Placement of VET learners

- Are participants of VET programmes successful at getting a job?
- Are participants of VET programmes successful at progressing to further learning/training?
- How responsive are VET programmes to the changing demands in the labour market?

Utilisation of acquired skills at the workplace

- Are programme participants satisfied with the information, advice and guidance they got from their providers after completing their training?
- Are employers and employees satisfied with the acquired skills/competences?
- How can the VET provider fit together the different needs and wants of employers and employees?
- How can the VET provider suitably improve its information mechanisms?
- How can the VET provider raise the level of its stakeholders' satisfaction?
- What evidence does the VET provider have that both learners and employers value the full range of what people know and can do after completing a VET programme?

Prevalence of vulnerable groups

- What evidence can the VET provider get that its programmes are accessible and attractive, particularly for disadvantaged groups?
- Does the VET provider cultivate resonance between the wants and needs of individuals in its provision, particularly of disadvantaged groups?
- Does the VET provider address the range of risk factors and reasons of disadvantaged groups?
- How can the VET provider encourage the participation of disadvantaged groups in VET programmes, including adapted training provision?

Applicable EQAVET indicators: indicators no. 4, 5, 6, 8b and their related indicators

Indicator no. 4

Completion rate in VET programmes:

Number of persons having successfully completed/abandoned VET programmes, according to the type of programme and the individual criteria.

For the operational definition and further information, namely related indicators, please see

http://www.eqavet.eu/qa/tns/monitoring-your-system/evaluation/indicator_4.aspx

Indicator no. 5

Placement rate in VET programmes:

(a) destination of VET learners at a designated point in time after completion of training, according to the type of programme and the individual criteria

(b) share of employed learners at a designated point in time after completion of training, according to the type of programme and the individual criteria

For operational definition and further information, namely related indicators, please see

http://www.eqavet.eu/qa/tns/monitoring-your-system/evaluation/indicator_5.aspx

Indicator no. 6

Utilisation of acquired skills at the workplace:

- (a) information on occupation obtained by individuals after completion of training, according to type of training and individual criteria
- (b) satisfaction rate of individuals and employers with acquired skills/competences

For operational definition and further information, namely related indicators, please see

http://www.eqavet.eu/qa/tns/monitoring-your-system/evaluation/indicator_6.aspx

Indicator no. 8

Prevalence of vulnerable groups:

- (b) Success rate of disadvantaged groups according to age and gender

For the operational definition and further information, namely related indicators, please see

http://www.eqavet.eu/qa/tns/monitoring-your-system/evaluation/indicator_8.aspx

4. MEETING VOCATIONAL AND TRAINING STAKEHOLDERS' NEEDS

Rationale

It is commonly accepted that the benefits of VET are realised both by learners/trainees and employers, which implies that an effective VET provision should reflect their respective needs and preferences. The challenge for the VET provider is, therefore, threefold, i.e. a) to learn about the rapidly changing labour market demands b) to arbitrate between the learners and the employers' needs and preferences and c) to promote access to VET.

In view of these challenges and the structural changes in the economy and the labour market, the kinds of qualifications necessary to meet both the needs of individuals and employers require VET providers to ensure consistent outcomes for the diverse groups of VET learners, including for disadvantaged groups.

General questions

- What type of mechanism has the VET provider developed to identify the training needs and wants of both individual VET learners/trainees and the labour market (employers, unions)?
- How can the VET provider increase the valuing of its provision?
- How can the VET provider do more and with "quality" outcomes?
- To what extent does the VET provider use the information gathered in planning and /or reviewing its programmes?
- How can the VET provider strike a balance between the "demand- led" and the "supply-led" paradigms, including for disadvantaged groups?
- How do VET providers ensure the systematic process to identify and meet their stakeholders' needs?

Specific questions

Mechanisms to identify training needs in the labour market

- What type of mechanism does the VET provider use to identify the training needs in the labour market (employers and unions)?
- How might the VET provider understand and anticipate shifts in employers' demands?
- To what extent does the VET provider use the information gathered to plan its new/revised programmes?

Schemes used to promote better access to VET

- What kind of measures has the VET provider developed to raise the attractiveness of its VET programmes?
- How successful are those measures in attracting more learners?
- To what extent do new/revised VET programmes meet the paradigm shift in the labour market, including flexibility in VET delivery for disadvantaged groups?
- What evidence can the VET provider get that its programmes are accessible and attractive, particularly for disadvantaged groups?

Applicable EQAVET indicators: indicators no. 9, 10 and their related indicators

Indicator no. 9

Mechanisms to identify training needs in the labour market:

- (a) information on mechanisms set up to identify changing demands at different levels
- (b) evidence of their effectiveness

For operational definition and further information, namely related indicators, please see
http://www.eqavet.eu/qa/tns/monitoring-your-system/evaluation/indicator_9.aspx

Indicator no. 10

Schemes used to promote better access to VET:

- (a) information on existing schemes at different levels
- (b) evidence of their effectiveness

For operational definition and further information, namely related indicators, please see
http://www.eqavet.eu/qa/tns/monitoring-your-system/evaluation/indicator_10.aspx

STEP 3 Collecting and analysing data and turning it into information

Definitions: data, information, knowledge

Systems theorist Russell Ackoff's article (1989) is often cited as the main source of the data-information-knowledge hierarchy. It might be relevant to reflect on the definitions he offered then and which are paraphrased below:

Data – is quantitative/ numerical and/or qualitative/ narrative. Data describes “what is” or “what is happening”. Data are crude information.

Information – is data that has been given meaning, i.e. it is used to inform stakeholders or for planning. Information describes “what is significant.”

Knowledge - is the appropriate collection of information, which will be used as evidence to support judgements (i.e. how well/to what extent) to take decisions (i.e. if this is so, then we need to...) and to decide priorities (i.e. the most important need is...)

Table no. 5 Definitions: Data, information, knowledge

Transition from Data to Knowledge:

- **From Data to Information:** Data becomes information when it becomes relevant to a decision and is contextualized.
- **From Information to Facts:** Information becomes a fact when data validates it. Facts are revealed by the data.
- **How facts become Knowledge:** When we are confident that facts answer a question and we trust the reliability or validity of the facts.

Types of Data

Data are generally divided into two types, i.e. qualitative and quantitative. A very basic way to differentiate between them is that qualitative data use description and narrative to convey information while quantitative data rely on numbers. There are, however, other relevant features which distinguish these two types of data: while both types of data have their uses and are often needed for understanding, they differ according to the type of information they provide, the methodology used to collect them and the interpretation they suggest., for example qualitative data are non-numeric and so they cannot be aggregated easily to make summary data on how a policy or a programme is performing on measures. Quantitative data, on the other hand, can answer such questions and are therefore preferred for accountability and to assist in program management and improvement.

Given their characteristics (as summarized below), it is not unusual that quantitative data are referred to as “hard data” and that qualitative data is referred to as “soft data”.

Qualitative Data	Areas of comparison	Quantitative Data
Words	Type of Information	Numbers
Interviews, videos, audio recordings, descriptions, study cases	Method of collection	Counts, ratings, scores
Large scope: substantial detail about individual events or groups	Level of detail	Narrow scope: numeric, aggregated to larger groups
Low	Generalization	High

Table no. 6 Types of data

Some researchers use the term “mixed method” to describe the quantitative and qualitative designs that blend both approaches within or across the stages of the process. Dey (2005), for example, says that “Measurement at all levels embraces both a qualitative and a quantitative aspect” and he uses a T'ai-chi T'u diagram to illustrate this mutual dependency:



Figure no.5 Quantitative and qualitative data in dynamic balance

Why care about data?

The literature on efforts to improve quality in Education and Training (E&T) has focused on the role of data in developing, guiding, and sustaining organizational change that leads to improvements in student/trainee learning.

Data clarify and explain

Reviewing data can be eye-opening because it both supports perceptions (e.g. about which learners are learning and attending) but it also reveals the differences. When VET providers start questioning why these differences happen, the need for data becomes clear.

Data for management and improvement

By exploring data, VET providers are able to identify existing problems and make informed decisions about what to change and how to change it. Once VET providers have made the necessary changes, data will help them evaluate the effect of the change as reflected in the data.

It seems appropriate therefore to take into account these definitions when VET providers are involved in their self- assessment/self-evaluation, particularly when they are collecting **data** in order to analyze it and turn it into **information** before they use it as **knowledge (evidence)** to make decisions and take action (see below)

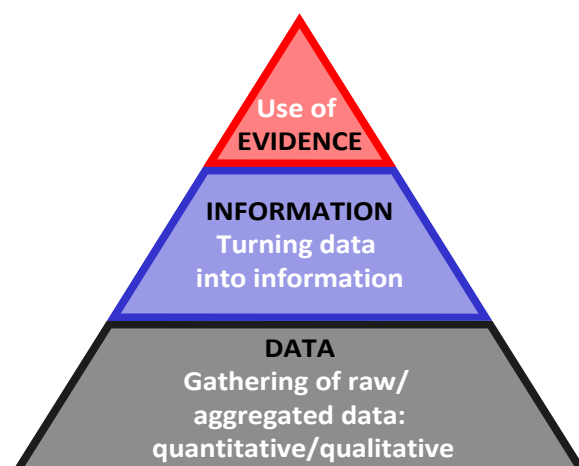


Figure no. 6 Knowledge pyramid (based on Ackoff's hierarchy)

Collecting Data

Every VET process improvement effort relies on data to provide a factual basis for making decisions throughout the EQAVET Quality Cycle (Plan, Implement, Evaluate¹⁵, and Review). **Quantitative** data¹⁶ exist as numbers and quantitative methods help to answer questions such as *who*, *how much*, *how many*. **Qualitative** data exist as words and qualitative methods help to answer questions such as *how* and *why*. While quantitative and qualitative methods might appear to be at different ends of the data collection spectrum, they can be complementary.¹⁷ Questions to guide reflection about this issue are

Why do VET providers want the data? What purpose will the data serve? What are methods for data collection? If surveys and/or questionnaires will be used, what is the target population and areas to be covered?

Creating a data collection plan

Data collection enables a VET provider to formulate and test working assumptions about the VET provision process and develop information that will lead to the improvement of its key quality characteristics. Answers to the following questions are the basis for a sound **Data collection plan** (see also **General Tips**, page 2, and **Operationalizing the data collection**, Pages 12- 14):

- ☞ Why does the VET provider want the data? What will the VET provider do with the data after collecting it?

¹⁵

Where relevant and possible, data should be disaggregated by sex, age and other relevant variables as indicated in the **EQAVET indicators' Toolkit** available at <http://www.eqavet.eu/ga/tns/monitoring-your-system/evaluation/indicators.aspx>

¹⁷ According to Greene et al., (1989) complementarity 'seeks elaboration, enhancement, illustration, clarification of the results from one method with the results from another'

- ↪ Where will the data be collected?
- ↪ What type of data will be collected?
- ↪ Who will collect the data?
- ↪ How does the VET provider collect the data?

There are many different data-collection methods to choose from and, after deciding on the evaluation questions to address and what data will be required to answer these questions, VET providers need to decide how it can best be obtained. In any event, the collection of data should be concise, clearly arranged, include relevant data only, and thus an adequate data collection approach requires such basic features as:

Standardized definitions of data elements, procedures and collection forms to ensure the uniformity of the data collected regardless of who collects it.

Quality control of data collection processes by overseeing and fine tuning them, given that problems and unforeseen issues will inevitably arise.

Training of staff on such basics as a) when to collect data, b) how to complete forms, c) how to enter data.

Table no. 7 Basic features of an adequate data collection

Types of data collection

When deciding between types of data collection, such questions as those shown below may be useful:

- ↪ Are the types of data collection suitable for the selected target groups and the issues being assessed?
- ↪ Can the type of data collection chosen by the VET provider identify significant issues as well as the outputs and outcomes of the VET provision?
- ↪ How reliable is the measuring instrument, i.e. will it provide the same answers to the same questions if it is administered at different times or in different places?
- ↪ What are the advantages and disadvantages for each one of the available types of data collection?

Quantitative data can be collected using three main **types of surveys**: censuses, sample surveys, and administrative data.

- **Census:** data collection about every unit in a group or population, e.g. if a VET provider collects data about the age of trainees in a class, that would be considered a “class census”.

- **Sample Survey:** only part of population is approached for data, e.g. if a VET provider collects data about the age of the female trainees in a programme, that would be considered a “sample survey of the programme”.
- **Administrative data:** administrative data are collected as a result of an organization's day-to-day operations, e.g. data on enrolment.
- **Tracer studies:** usage of a) a regular survey as the core tool b) combining it with in-depth discussions with a sample of those surveyed and c) interviewing key informants on particular key issues.

Qualitative data can be gathered in a variety of ways, for example:

- **Questionnaires:** series of questions and other prompts for the purpose of gathering information from respondents, i.e. VET stakeholders;
- **Interviews:** conversation between two or more people where questions are asked by the interviewer to obtain information from the interviewee(s);
- **Focus groups:** a group of people are asked about their attitude towards a product, service, concept, an idea;
- **Observation:** a group or single learners are asked to perform a specific task or action. Observations are then made of behaviours, processes, workflows etc, in a real-life situation (e.g. the workplace);
- **Case study:** often used to provide context to other data (such as outcome data), offering a more complete picture of what happened and why.

Storing Collected Data

National/ regional authorities in charge of Education and Training in the EU Member States routinely collect information as part of their regular operations. The knowledge driven society of the 21st century, however, calls for special and timely information on Education and Training, particularly on Vocational Education and Training.

National/ regional/local authorities in charge of Education and Training in the EU Member States routinely collect information as part of their regular operations. Data management at the national/regional and at VET provider level is therefore likely to look very similar. However, the knowledge driven society of the 21st century calls for special and timely information and for sophisticated ways of storing data. According to available literature on data storage and information management, VET providers face four issues:

- ☑ Need to consolidate storage and ensure that it is possible to easily upgrade it without disrupting the system;
- ☑ Need to keep acceptable service levels, i.e. guarantee the timely access of data, as storage capacity grows and the number of users grow;
- ☑ Ensure that it is possible to immediately switch to a redundant system when a failure occurs in order to mitigate the risk of data loss and corruption.

How to organize collected data

Informatics and internet have led to a dramatic change in the way the amount of data can be collected, stored and made easily accessible. The problem VET providers face is sorting out the valuable data from the invaluable data and determining how they use it to inform decisions.

A database or spreadsheet can be helpful in organizing data and computer programmes, such as Excel and Access, may be useful. There is other software available in the market but it is generally expensive¹⁸ and VET providers may wish to seek technical support before taking the decision to get it.

In any event, VET providers need to consider how they want to organize data if they create an electronic database. Decisions made about the design of the database and how to enter data will influence how easy or difficult it will be to analyze results. It is generally accepted that questions are useful in framing the decision-making process to design a database, as for example:

- ↳ How useful is it to assign a unique identifier to each individual in the dataset?
- ↳ Should all information about an individual be included in one row of the database or should the same person appear in multiple places?
- ↳ What kind of form to use in coding responses so that they are easier to analyse, e.g. choose YES or 1=YES?
- ↳ How consistent should the format (to enter data) be?

Analysing and interpreting data

Data are crude information. The goal of data analysis is to move crude information to knowledge, i.e. once data is collected, the next step is to analyze it. Analysis should be approached as a critical, reflective, and iterative process that moves to and fro between data and the overarching framework that keeps the big picture in mind, i.e. the EQAVET Framework. Depending on the scope of the VET provider's self-monitoring and the available resources, data needs to be organized before being analysed.

How to represent data graphically

Data visualization is a means to an end for VET providers who want to better communicate their results to the relevant stakeholders and to the public at large. Selecting the appropriate display can be difficult because it involves a good understanding of the nature of data, statistics, as well as a good understanding of design principles. Presently, however, some traditional graphical means of data representation can be found in Excel 2007 (e.g. pie charts, bar and column charts, line graphs, tree-maps, bubble charts, dynamic/interactive graphs).¹⁹

In planning to represent their data graphically and before they choose their visualization techniques, the most relevant for VET providers is to find the answers for such **core questions** as:

- ↳ How will information be reported (e.g., reports, fact sheets, slides, overheads) and how frequently will it be reported?
- ↳ What are the benefits of having data visualization? What might be some drawbacks?

¹⁸ SPSS (Statistical Package for the Social Sciences) is among the most widely used programmes for statistical analysis in social sciences, namely in education.

¹⁹ See how to alter the defaults in Excel 2007 http://www.processtrends.com/TOC_data_visualization.htm

Data analysis

Data analysis is a systematic process that involves organizing and classifying the data collected, tabulating and summarizing it to extract useful information that responds to the evaluation questions and fulfils the objectives of the self - monitoring. The end result of data analysis is the discovery of both strengths and areas for improvement.

Quantitative data exist as numbers and quantitative methods help to answer questions such as *who, how much, how many*.

Three levels of data analysis

- **Level 1** gathering of **data**, i.e. quantitative (numerical) and qualitative (narrative) which describes “what is” or “what is happening”;
- **Level 2:** data is turned into **information**, i.e. it allows providers to make key statements or comparisons;
- **Level 3:** information is used as **evidence**
 - to make judgements, e.g. “how well” or “to what extent”
 - to take decisions, e.g. “if this is so, then we need...”
 - to determine priorities
 -

Quantitative Data Analysis

Analysis and interpretation of quantitative data requires the use of statistics — either a **descriptive analysis** or an **inferential analysis** (see table below). The descriptive analysis can help summarize data and identify key findings, and it is used with census data. The inferential analysis will help draw conclusions about results and it is used with random sample data. The first step, however, in data analysis is to describe, or summarize, the data using descriptive statistics.

In **descriptive analysis** possible questions to interpret raw data are

- ↪ How often does each value (or set of values) of the variable in question occur, i.e. how many and what percent?
- ↪ Which number best represents the “typical score”, i.e. how similar are the data?
- ↪ What is the amount of variation or disagreement in results, i.e. how dissimilar are the data?

In **inferential analysis** a possible question to be asked is

- ↪ Are results meaningful, e.g. did VET programme participants change in important ways over time?

Table no.8 Descriptive analysis and inferential analysis

Qualitative Data Analysis

Qualitative data analysis is the range of processes and procedures used to move from the qualitative data that have been collected into some form of explanation, understanding or interpretation of the situations under consideration. There are many approaches to analyzing qualitative data but a useful model is the one developed by Seidel (1998) as cited at **On line QDA**²⁰. The model consists of 3 parts: Noticing, Collecting, and Thinking about interesting things, which are interlinked and cyclical (see Figure no.5 below).

²⁰ Available at <http://onlineqda.hud.ac.uk/index.php>

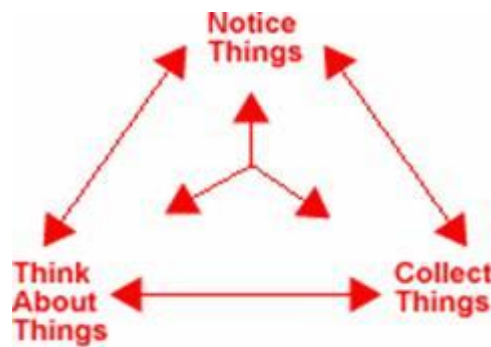


Figure no. 7 Data analysis process (Seidel, 1998)

According to Seidel the process is

- ↳ **Iterative** and progressive because it is a cycle that keeps repeating;
- ↳ **Recursive** because one part can call you back to a previous part;
- ↳ **Holographic** because each step in the process contains the entire process.

In summary, data analysis is a process of reviewing, studying, examining, and questioning the data in order to find patterns, anomalies, and trends. The process should result in knowing or identifying specific areas of insufficiency and possible root causes of identified problems, even if finding those patterns and trends within the data is only one part of turning information into action.

Step 4: Turning information into evidence and taking action

Reporting findings

Communicating findings is a critical step in the QA cycle and it should be an integrated mechanism in order to proactively engage the relevant stakeholders. Mechanisms for reporting VET provider's self-monitoring findings should be identified and agreed among the partners to both prove success by sharing results and improve VET provision. Some useful questions to start thinking things over are

**What findings are reported to whom, in what format, and at what intervals?
Will the selected reporting system fulfil both the 'proving' role of results against goals and the 'improving' role of sharing learning and analysis?**

Crafting a comprehensive strategic communications plan helps VET providers identify key messages, audiences, results, effective tools (e.g., web-based data charts) and timelines. The following are vital elements in a communications plan:

- Audience** → With whom does the VET provider want to communicate?
- Messages** → What key messages does the VET provider wish to deliver?
- Results** → What measurable effect does the VET provider expect to achieve?
- Medium** → What communications method does the VET provider want to use?
- Timeline** → By what date does the VET provider want to achieve its objectives?
- Staff** → Who will be responsible for successful communications?

Who are the target audiences?

VET providers should identify and prioritize their target groups early on because communication needs to reach these multiple audiences. A good way is to develop a stakeholder analysis matrix (see below Table no. 9) where major stakeholder groups are identified, their respective interests, importance and influence is determined and strategies for their involvement are established. According to the literature there are three main categories of stakeholders²¹

- **Key stakeholders**, i.e. those who can significantly influence the Quality Assurance (QA) effort, e.g. national/ regional/ local authorities, VET providers, social partners
- **Primary stakeholders**, i.e. those who are directly affected by the QA effort, e.g. learners, teachers/trainers, employers

²¹ Note: Where the line is drawn precisely, may be a source of much debate.

- **Secondary stakeholders**, those individuals/ groups with an interest or intermediary role in the QA process, e.g. society at large (taxpayers, media).

Stakeholder Type	Stakeholder	Stake in the VET provision	Potential impact on VET provision (high, medium, low)	What does the VET provider expect from the stakeholder?	Perceived attitudes and/or risks	Stakeholder management strategy	Responsibility in the VET provision
Key stakeholder	National authority	Policy & process owner who determines institutional policy and procedures	High	Commitment to implementing change	Lack of clarity about approach	Regular updating meetings with representatives of national authority	Policy maker
Key stakeholder	Employers	Avoid mismatch between labour market needs and VET delivery	High	Input on what skills employers seek and the levels of skills they expect	Risk of seeking narrowly tailored programmes	Close coordination to develop strong institutional links and work in partnership	Stake in employability skills development of learners/trainees
Secondary stakeholder	Employment services	Brokerage functions: matching jobs and job seekers	Medium	Assistance in identifying the labour market needs	Positive link between services and (local) labour market	Regular exchange of information on available jobs	Mediating role between demand and supply

Table no. 9 Illustration of a stakeholder analysis matrix filled in with three examples Add rows as needed

Which messages are most appropriate for those target audiences?

The key strategy to disseminate findings to different stakeholders is to match the right data with the right audience and address their most pressing interests and needs, i.e. good messages focus on the stakeholders' interests and needs, not on the VET provider's aspiration to promote its programmes.

Sharing findings with stakeholders serves two different purposes: it validates the work developed by the VET provider and helps to build consensus and support for the improvement of QA the provider is engaged in or in which it is about to engage. The most significant features of communicating the self-monitoring findings is the **improving function, i.e. sharing learning and analysis**, may be induced by asking such questions as

↳ Is the VET provider doing the right things? Is the VET provider doing the things right?
If not, how can the VET provider change its course of action?

↳ Could the VET provider do things better? Could the VET provider do better things?
If yes, how can the VET provider improve processes and achieve better outcomes?

How are the findings going to be presented to the stakeholders?

In order to communicate its findings, the VET provider can consider a number of delivery channels like print materials, mass media, events, and public websites and on -line forums. Below are some basic examples:

- Upload the self-monitoring report on the organization's public **website**;
- Organize **meetings** with interested stakeholders to discuss lessons from the self-monitoring exercise, e.g. in-house meetings like teachers/trainers conferences, discussion meetings for learners/students/trainees and/or teachers/trainers and/or staff members as well as meetings with external stakeholders ;
- Present **papers** at conferences related to VET and **EQAVET** implementation;
- **Invite researchers / academics** to discuss the data collected for the self-monitoring to discuss the methodology applied;
- Share lessons through **networks** within and beyond the **EQAVET network**.

Taking action: using information to improve results

Generally speaking, knowledge generated from monitoring/evaluation should

- ↳ be incorporated in the improvements of the VET provision strategy
- ↳ set off adjustments in a well-timed manner.

In other words, lessons from self-monitoring at VET provider level should be available when VET organizations are reviewing their provision programmes, new outcomes are formulated or procedures for change are designed in light of the implementation of the **EQAVET Framework**. Moreover, knowledge and information should be institutionalized, i.e. the learning process can be achieved by better incorporating learning into existing tools and processes.

The implementation of the **EQAVET Framework** implies monitoring/evaluating it at different levels, i.e. at European level and at national/regional local level and, last but not least, at VET provider level. Information produced at each one of these levels, if presented objectively and clearly, provides a basis for a shared understanding and vision of VET.

At VET provider level

At this level, it is through consideration of causes of the data/information that VET providers begin to generate possible actions by searching possible causes of the findings and eventually select the findings that will be the target of interventions. Once possible causes are identified, the VET provider sets (a) measurable objective(s) for improvement. Objectives that are measurable, set within a specific timeframe, and focused on the results desired are helpful to

focus action planning. For example, VET providers may use such a management tool as **SMART**²² to set their objectives which should be

S = Specific
M = Measurable
A = Attainable
R = Results-driven
T = Time bound

Thus, the information generated (results achieved and lessons learned) at VET provider level needs to be ²³ incorporated into the **reviewed** policy and/or programmes or **new** policy/programmes.

Interventions for the improvement of the VET provision and the assurance of its quality are available both at Member State level as well as at regional/local level, even if they are not always systematically applied or well coordinated. A 3-tiered approach, based on the intensity of the interventions, might be useful in reviewing policies and/or programmes at VET provider level as follows:

TIER I General intervention

This includes all aspects of the VET provision in a systemic way, e.g. *Management and Organization, Delivery of VET provision, VET learners' achievement and performance and Meeting VET stakeholders' needs;*

TIER II Targeted interventions

These include those aspects of the VET provision that need to be specifically improved, e.g. *Meeting VET stakeholders' needs;*

TIER III Individual interventions

These include individualized aspects of the VET provision, e.g. alternative VET programmes for disadvantaged groups.

Table no. 10 A 3-tiered approach to VET provision improvement

Moreover, VET providers may consider taking some further steps in implementing improvement interventions such as

- Communicating the purpose of whatever selected approach explicitly in order to achieve support at multiple stakeholders' level ;
- Clearly defining the approach so that it is easily understood by all stakeholders;
- Creating an inventory of existing interventions.

²² **SMART:** There are many that claim to know the true history of the SMART objective acronym but there is little documented evidence. Blanchard and Hersey seem, however, to use the term SMART goals in their books, particularly in the 5th edition of *Management of organizational behavior* (1988).

²³ **Note:** The revision of the EQAVET Recommendation, if and when necessary, will be undertaken every four years as from 2009

At European level

The implementation process of the **Recommendation of the European Parliament and of the Council on the establishment of a *European Quality Assurance Reference Framework for Vocational education and Training*** is expected to percolate through the different levels of the VET system/sub-system (local/regional/national). The experience gained in this process will contribute to a review of the EQAVET Recommendation conducted in cooperation with the Member States and involving the various stakeholders, if necessary.²⁴

²⁴ According to the Recommendation, it is the Commission's intention to "undertake, on the basis of that report and in cooperation with the Member States, an evaluation of the implementation of this recommendation and, if necessary, its revision"

ANNEX A

LIST OF EQAVET INDICATORS

A REFERENCE SET OF SELECTED QUALITY INDICATORS FOR ASSESSING QUALITY IN VET²⁵

Indicator no. 1	Relevance of quality assurance systems for VET providers: (a) share of VET providers applying internal quality assurance systems defined by law/at own initiative (b) share of accredited VET providers.
Indicator no. 2	Investment in training of teachers and trainers: (a) share of teachers and trainers participating in further training (b) amount of funds invested
Indicator no. 3	Participation rate in VET programmes: Number of participants in VET programmes (1), according to the type of programme and the individual criteria (2) (1) For IVT: a period of 6 weeks of training is needed before a learner is counted as a participant. For lifelong learning: percentage of population admitted to formal VET programmes. (2) Besides basic information on gender and age, other social criteria might be applied, e.g. early school leavers, highest educational achievement, migrants, persons with disabilities, length of unemployment.
Indicator no. 4	Completion rate in VET programmes: Number of successfully completed/abandoned VET programmes, according to the type of programme and the individual criteria.
Indicator no. 5	Placement rate in VET programmes: a) destination of VET learners at a designated point in time after completion of training, according to the type of programme and the individual criteria (3) b) Share of employed learners at a designated point in time after completion of training, according to the type of programme and the individual criteria. (3) For IVT: including information on the destination of learners who have dropped out.
Indicator no. 6	Utilisation of acquired skills at the workplace: a) information on occupation obtained by individuals after completion of training, according to type of training and individual criteria b) satisfaction rate of individuals and employers with acquired skills/competences
Indicator no. 7	Unemployment rate (4) according to individual criteria (4) Definition according to ILO and OECD: individuals aged 15-74 without work, actively seeking employment and ready to start work.
Indicator no. 8	Prevalence of vulnerable groups: a) percentage of participants in VET classified as disadvantaged groups (in a defined region or catchments area) according to age and gender; b) success rate of disadvantaged groups according to age and gender

²⁵ ANNEX I of the RECOMMENDATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the establishment of a European Quality Assurance Reference Framework for Vocational Education and Training
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:C:2009:155:0001:0010:EN:PDF>

Indicator no. 9	Mechanisms to identify training needs in the labour market: a) Information on mechanisms set up to identify changing demands at different levels; b) Evidence of their effectiveness.
Indicator no. 10	Schemes used to promote better access to VET: a) Information on existing schemes at different levels; b) Evidence of their effectiveness.

ANNEX C

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ANNEX D List of members of Working Group 2 is available [here](#)