

2. ROLE OF THE QUALITY ASSURANCE CYCLE AND CONSEQUENCES FOR THE SHAPING OF ORGANISATIONS AND TEACHING PROCESS

2.1. Quality Assurance Cycle

TVET institution's quality is assured through structured management system. The approach to developing a quality management system depend on several factors. The nature of the TVET institutes across the ASEAN region and diversity of programmes and qualifications offered calls for flexibility of quality assurance approach to be employed. In ensuring the quality the education and training of TVET institutes, the performance is evaluated and improved repeatedly to ensure continuous



Source: google image asq.org

improvement throughout the quality cycle. The quality assurance cycle, as we have always known, starts with planning and continue with other stage like implementing, assessing, review and refine stage and the cycle repeats. The quality cycle would have at least 4 main stages. The 4-stages quality assurance cycle, Plan-Do-Check-Act (PDCA) is a well-known model in business process management. These four stages are performed repetitively. It encourages commitment to continuous improvement. Prior to using the model, it is best to analyse the needs for improvement and the current approach use to develop the quality system at TVET institute. The application of PDCA cycle will result in continuously looking for better methods for improvement.

2.2. PDCA Role in Shaping TVET Centres

TVET institutes like any organisation is subject to addressing customer needs, regulatory rules and regulations within context of the organisation and going through a series of internal processes before delivering output either in terms of service or products. Each stage of the model is best approached by identifying all the core processes involved at the institute. Identifying the process owner and person in charge and accountable for each process is important.

Plan

This stage relates to the formulation of quality policies, quality objectives, programme, courses and learning outcomes, procedures and processors, guidelines etc. These



statements define the standards to be achieved and therefore provide the basis for support for the quality assurance system. Written in measurable terms, this makes it easier to develop assessment criteria.

Some of the guiding questions to be used for this stage are;

- 1) Are these statements measurable?
- 2) How are these statements communicated to the internal and external stakeholders?
- 3) Who were consulted as panels in the formulation process?
- 4) How are these panels selected and appointed?

Source: MQA Code of Practice for Programme Accreditation

Activities involved during the plan stage are

- Set up a purpose
- Develop or revise vision and mission statement
- Develop quality policy
- Establish quality objectives
- Establish procedures for core processes related to product or services
- Establish desired output
- Design staff professional training and development plan
- Plan resources for support and services
- Plan infrastructure for learning and teaching
- Plan monitoring and measuring method
- Plan mechanism for control of documents/records

Do

This is the operational stage of the quality assurance cycle. It witnessed the implementation of the planned activities and strategies for policies, procedures and processes to name a few. The quality assessment criteria would be such as communication channel, consistency of implementation exercise, control of products and services and handling of records and documentation.

Some of the guiding questions to be used for this stage are;

- 1) How do you assign the task to the personnel?
- 2) How do you know that what you are doing is the same with others in different department?
- 3) How are the stakeholders informed about the student performance?
- 4) Can you describe the process by which the curriculum is established, reviewed and evaluated?



Source: MQA Code of Practice for Programme Accreditation

Activities involved during the plan stage are

- Communicate with relevant parties
- Design and develop product or services
- Control products or services
- Keep records and documents for traceability

Check

This stage is divided into information gathering process and presentation of findings. Information gathered are assessed. Consistency of information gathered is checked. This is the phase of checking: Are you doing what you are supposed to do the way you are supposed to do?

Some of the guiding questions to be used for this stage are;

- 1) How are the students' performance monitored? What are the evidence collected to verify this the monitoring is done according to the planned activities?
- 2) How are the instructors' performance monitored? What are the evidence collected to verify the monitoring is done according to the planned activities?
- 3) How do you know that the results furnished are correct? What are the evidence collected to verify the monitoring is done according to the planned activities?
- 4) How do you prepare the test papers? What are the evidence collected to verify the monitoring is done according to the planned activities?
- 5) How do you ensure the marking of the students' answer scripts is acceptable? What are the evidence collected to verify the monitoring is done according to the planned activities?

Activities involved during the plan stage are

- Check consistency of information furnished by process owners
- Check validity of procedures applied
- Check control mechanism of product and service quality
- Check control mechanism for identification and traceability
- Check control of non-conformity process output

Act

Assessment performed during the check stage provides a direction for further action. It helps the process of decision making on the type of action to be taken. It helps decide to either maintain, review or remove the planned activities. Act depends on the effectiveness of the assessments carried out. Consistency of the information gathered



across the procedures and respondents provide evident that the mechanism deployed for Do is as Plan. If it happens otherwise, it will be identified as gap and this calls for another cycle of PDCA.

Some of the guiding questions to be used for this stage are;

- 1) How do you organise feedback and review session?
- 2) How do you organise feedback and request for change?
- 3) How do you know that you have to organise training for the staff due to lack of technical competence?

Activities involved during the plan stage are

- Effectiveness of monitoring mechanism
- Customer satisfaction
- Consistency of data and information gathered
- Effectiveness of action plan
- Effectiveness of quality control on output
- Action proposed during feedback and review sessions

2.3. Quality assurance, Quality development and Teaching processes-The Missing Link

Mismatch between the graduate's competence and industry requirements is seen as an issue and a challenge in ensuring a graduate place in an industry. The one factor that is within the control of the TVET institute is shaping their technical and vocational competencies. Concerns aim to change or improvement of shaping the quality of TVET Centres focuses not only on the technical dimensions of quality (Quality Assurance) but also on the development dimensions (Quality Development). Companies at large expect employees to be able to perform tasks at an acceptable standards and master professional tasks independently with little or preferably without supervision and assistance, TVET Centres play an important role in shaping these vocational competencies.



Source: google image www.fotoresearch.com



TVET institution is therefore a platform for the trainees to acquire and develop vocational competencies to adapt and adopt to changing and demanding requirements in the world of work.

On this note, the use of methods to deliver and deploy the content have moved from being teacher centred-content based to student centred-outcome based. Efforts have been made to shift from formulation of learning objectives to learning outcomes. Method have been developed to align the training content with the outcomes. Outcomes are being formulated at various level of competencies development with specific methods identified to be deployed, so that the trainees will acquire these outcomes.

Training methods have evolved from frontal teaching using lectures to those that promote social interactions, collaborative and cooperative learning. This shifts the responsibility of learning and gave trainees the autonomy for learning. Learning is a learner's responsibility. Trainers or instructors change roles act as facilitators; presenting stimuli, create activities to increase learner's attention, provide learning interventions, determine the sequence of learning. This change from teaching-learning to learning-teaching.

Demands for trainees to be “industry ready” and to be able to adapt to the changing environment of the world of work has caused TVET methods to significantly change from direct instructions to social interactions. Teaching methods such as project (Figure 2) focuses on trainees; encourages trainees to work independently, capable to plan, think in a more structured and systematic flow, accept ideas and criticism and apply communication skills. However, the decision to select the method or combination of methods to be applied within the level of competencies to be achieved will depend on several factors among which are

- Methodological skills of trainees
- Curricular that is being translated for industry specifications and outcomes to be acquired
- Methodological skills of trainers
- Overall condition and support of the learning environment



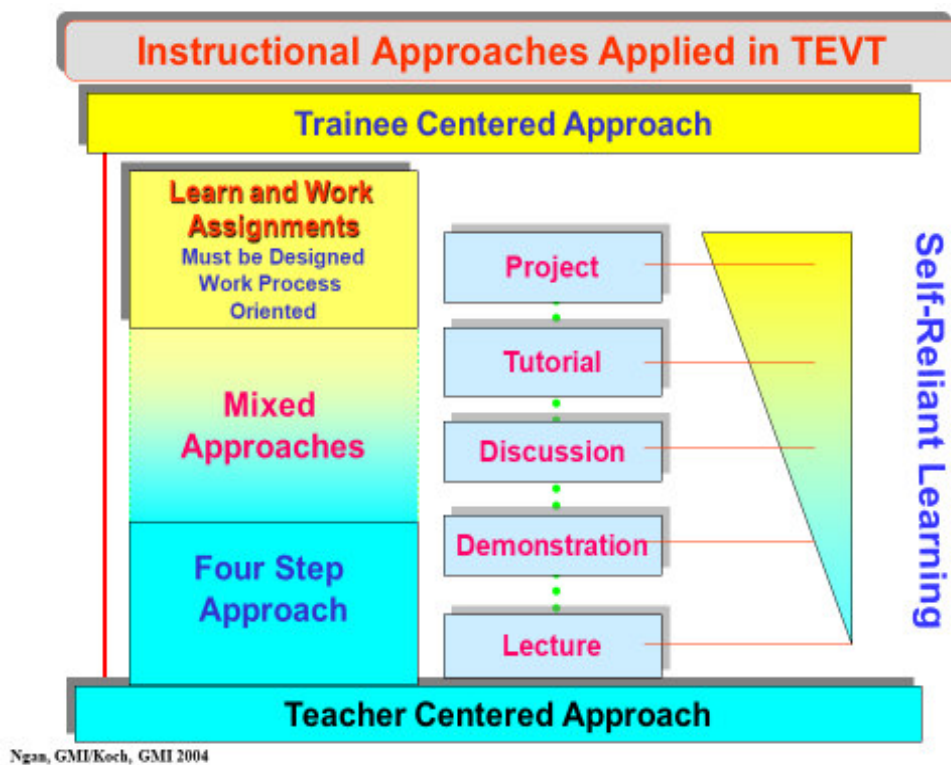


Figure 2 Instructional Approaches Applied in TVET

Based on the factors listed above, methodological skills of the trainers have a significant importance in controlling and shaping the technical and vocational competencies of trainees from TVET institutes.

2.4. Issues of Quality in TVET Centres

Education and training plays an important role in shaping the development of a country. For this reason, the demands for competent and knowledgeable manpower has become more crucial in all industry sectors. The rapid change in technology requires graduates from TVET institutes to be able to match and cope with these demands. This demands inevitably create challenges for the institutions to equip graduates with employability skills. However, no institutes will be able to meet the industry demands, what more when there are so many industry sectors to be entertained.

Issues on

- Private sector related
- TVET Personnel development
- Management of TVET Institute
- Teaching and learning methodologies
- Quality culture



Programmes are rated according to its ability in meetings the demands of the industry. High quality programmes are believed to be achieved when the institute have a strong relationship with the industry. Lack of industry exposure of TVET personnel creates challenge in up keeping the trainers' professionalism. Cooperative partnership in strategizing training will ensure the information on current and best industry practices been shared with the training institutes. This helps to not only orientate the quality development of the institutes and perhaps as a solution to overcome limited training resources and outdated curriculum and or syllabus being used in training.

Quality is not a one time off, a responsibility of a particular someone and to each a different meaning. It is continuous ongoing process, a responsibility of each and every one with every one having a common understanding. Therefore, there is a need for those in the management and those in the operations to predefine the areas which is valuable to the institute, establish standards to be achieved for these areas, measure their performance, identify the performance gaps and communicate these to all stakeholders effectively. It is utmost importance for TVET institutes to continuously review the quality assurances practices to ensure their relevancy, reliability and effectiveness, in meeting the demands of the ever changing environment of which the institutes operate.

Models of teaching is model of learning. Model of teaching is not fixed and inflexible and no one learner has a fixed and unlikely to change learning styles. Quality in TVET institutes is often related to the effectiveness of the learning and teaching processes; trainers methodological competence. One important aspect in the trainer methodological competence is trainer style or preference in teaching or delivery which is related to trainer qualification (subject matter expert) and professional experience. Lack of innovative ideas in trainers and application of various models in teaching contribute to the quality in TVET institutes. The teacher centred direct instruction model preferred by 20th century teachers are not a preferred learning model by 21st century students. In short, methodological competence of trainers does have a significant importance in ensuring quality of the graduates and need upgrading.

Administrative measures of an institutes are executed by individuals like you and me. However, depending on the administering, management and leadership styles, this may differ between institutes. Nevertheless, the regardless of the difference, the team exercised to achieve the goals set by an organisation, considering the direction of the institute is well defined. Disagreements may be observed among the individuals in



areas which are ambiguous and subjective. This will lead to no or little commitment and participation. Consistent and predictable results are achieved more effectively and efficiently when activities are understood and managed as interrelated processes that function as a coherent system (ISO 9001:2015). Clear vision and mission statements sets the direction of the institute, guidelines and directions provide the basis for strategic planning and implementation exercise, partnership within the internal and external stakeholders forge relationship in terms of knowledge sharing and industry development. This will help promote togetherness and sense of belonging, the platform for a quality driven culture.

**These issues have been highlighted during the Regional Expert Workshop in Ho Chi Minh, Vietnam from 25-26 October 2018*

THE TENSION BETWEEN THE PROCESS WORKFLOWS AND THE INPUT-PROCESS-OUTPUT DIMENSIONS OF QA

2.5. TVET Centres QMS - Elements for Input, Process and Output Dimensions

Business operates on interactions. The ability to interact between parties involved is the basis for mutual understanding and communicate expectations. Quality management in TVET Centres requires comprehensive understanding of the processes and people involved under the provision of education and training It oversees all activities of planning, implementing, monitoring and measuring performance of all business processes and people and /or parties involved for providing learning and teaching support in TVET Centres. It provides a system which aligns the institutions purpose and strategic direction, meeting regulatory requirements and consistently meeting customer needs and expectations and enhancing their satisfaction.

By adopting the classic systems approach, the TVET Institutes quality management system (QMS) can be modelled as an Input, Process and Output system (Figure 3).



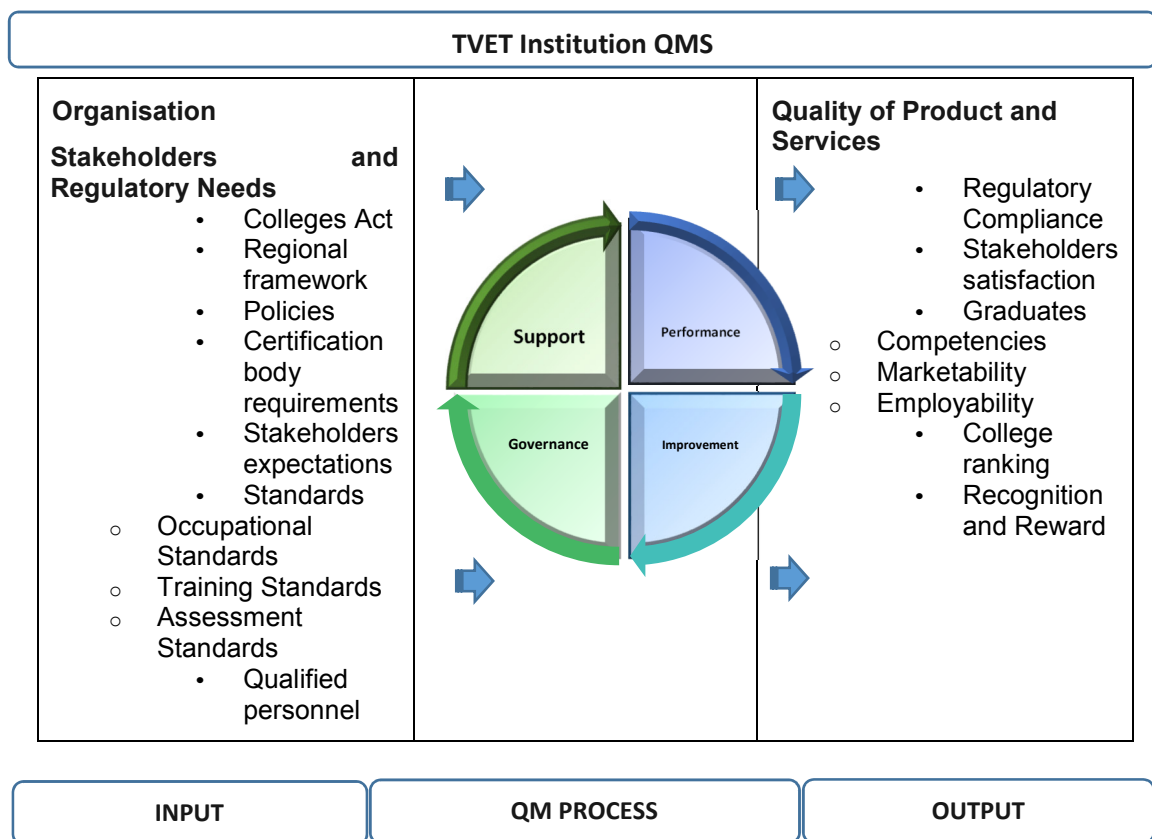


Figure 3 TVET Institution QMS

Input dimension

This is defined by the needs and expectations of external quality assurance, concerns within the context of the TVET institution and requirements from the regulatory bodies. Take for example, vision of an institute. While the vision sets direction of the institute, the programme offered by the institute should support the vision statement of the institute. The external quality assurance is more likely to see how the programme offered supports the vision of the institute.

Process dimension

This is the internal quality assurance or quality management of a TVET institution. It requires comprehensive understanding of the business processes and roles and responsibilities of the people involved. It looks into the implementation and monitoring of the policies, structure, procedures, guidelines and practices across the institute. The quality cycle evolves within this dimension of the system.

Output dimension



This is the results or deliverables of training; the end product of training. It relates to the quantified representative such as number of graduates, number of training programmes, number of graduates employed. The output quality is measured based on what is valued. They are measured by using indicators which are clearly defined by quality criteria.

2.6. Designing TVET Centres Quality Management System (QMS)

A system is defined as a set of detailed methods, procedures and routines created to carry out a specific activity, perform a duty, or solve a problem (www.businessdictionary.com) or a set of things working together as parts of a mechanism or an interconnecting network; a complex whole.

Quality Management is a process of controlling level of performance in education and training using indicators, for both internal and external audit and inspection and all activities of management that determine quality policy, objectives and responsibilities, and implement them by means of a quality plan, quality control, and quality assurance within a quality system (ISO 9001,2015)

Combining all those above, Quality Management System (QMS) is a set of detailed methods, procedures and routines created to control the level of performance in education and training using indicators, for both internal and external audit and inspection and all activities of management that determine quality policy, objectives and responsibilities, and implement them by means of a quality plan, quality control, and quality assurance within a quality system.

In short QMS is a set of established processes and mechanism use to implement, control and assess the level of performance to meet internal and external requirements by means of a quality management process. Refer Figure 3 TVET Institution QMS

It is important to note that there are many sequence and interactions in the QMS. The input process output in Figure 4 shows the sequence and interactions between one process with another.



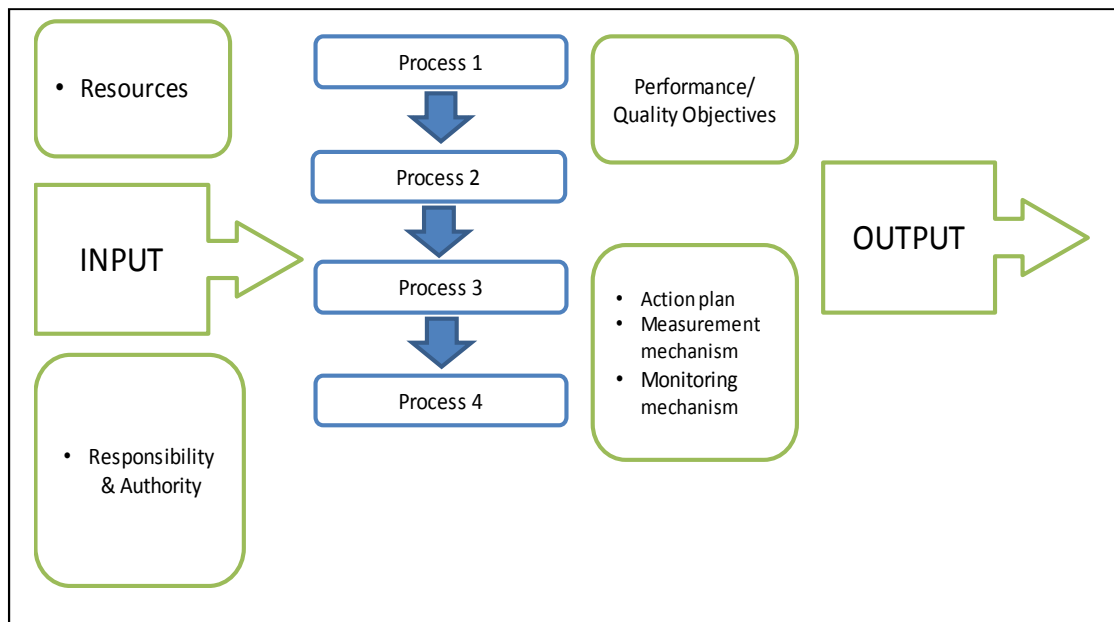


Figure 4 Sequence and Interactions

In planning for the QMS, it is important to identify the risk/tension of the process workflow and determine the counter measures to be taken in figure below. The common question would be “what might go wrong” and “what can be done to overcome this risk/tension”. An example of the process workflow is given in Figure 5 . As a practice, identify “what might go wrong” and “what can be done to overcome this risk/tension” in the input, process and output phase. Similarly apply the similar approach on an identified learning and teaching process.

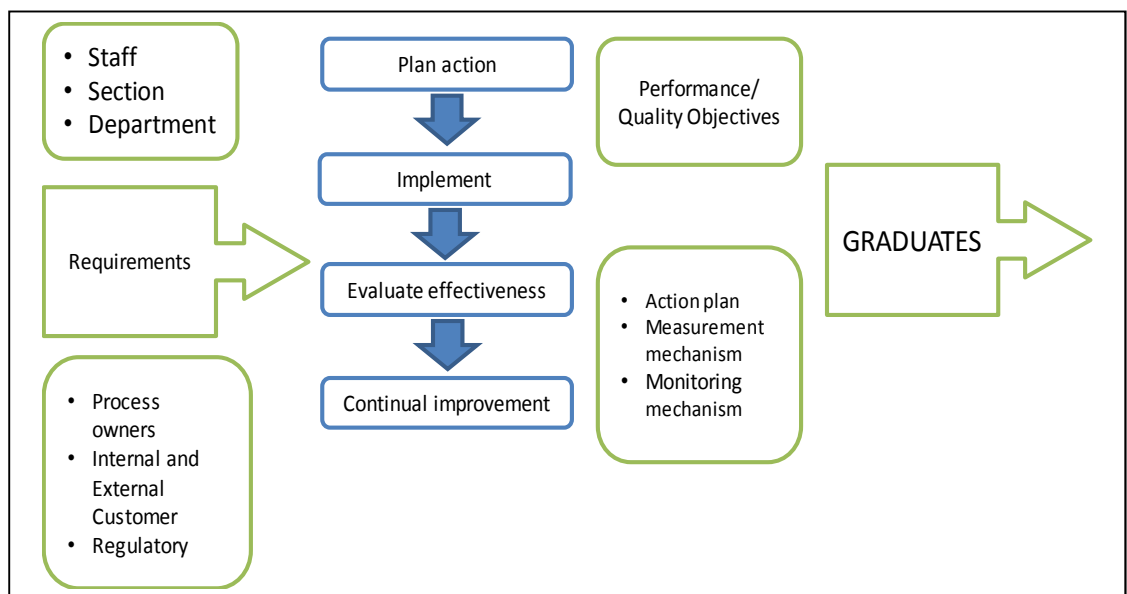


Figure 5 Process Flow and Tension for Quality Development



2.7. Quality Indicators

Quantitative or qualitative factor or variable that provides a simple reliable means to measure achievement, reflect the changes connected to an intervention or to help assess the performance of a development actor (Refer Table 2). Quality indicators are also known as performance objective or quality objectives. These quality indicators for TVET institutes are written to communicate or give an idea of “how good is our institute”. Although they are written for the use of the stakeholders and the public, the main purpose is for the use of the internal quality assurance team; the trainees, trainers /instructors and all those involve in the learning and teaching processes.

Quality indicators written are consistent with the quality policy. Trainee satisfaction on quality of programme delivered, program recognition, number of awards receive by institutes, completion rates, employment percentage, graduates’ income range, appropriateness of work with qualification obtained are among indicators being used to measure “How good your institute is”. However, the core of the QA in TVET institutes is quality indicators related to learning and teaching. This include quality indicators on curricular, delivery, assessment, facilities for training, support for learning and teaching, instructor’s professionalism and the list continue.

Examples of quality indicators written with reference to the description given in paragraph above is shown in Table 4 and quality indicators for the identification of aspects relevant to quality and a cyclical process model for quality assurance by ECATVET is given in Table 5 EQAVET Quality Indicators

Table 4 Process, Output and Quality Indicator

Department	Process	Output/Key performance Area	Quality Indicator
Training	Examination	Quality of examination papers	100% of examination papers are designed according to Table of Specifications
Human Capital Management	Staff development	Instructors professional development	Provide minimum of one training course on per instructor per year



Training	Learning & teaching	Student Assessment	Achieve 100% reliability at all times
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Table 5 EQAVET Quality Indicators

1. Relevance of quality assurance systems for VET providers
2. Participation rate in VET programmes
3. Completion rate in VET programmes
4. Placement rate in VET programmes
5. Unemployment rate
6. Prevalence of vulnerable groups
7. Mechanisms to identify training needs in the labour market
8. Schemes used to promote better access to VET
9. Investment in training of teachers and trainers

Source: Improving the quality of company-based learning BIBB

Reference: European Quality Assurance Reference Framework (EQARF).

