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# InTheLoop4VET

## O2-T1: Tracking data and provision performance correlation mechanism

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**CIPFP VALLE ELDA**

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## **O2 TRACKING DATA AND PROVISION PERFORMANCE CORRELATION MECHANISM**

This output develops the necessary resources for VET providers to support the selection of institutional quality parameters in need of review and adjustment (e.g. curricula and programmes, training media, guidance services, standards and qualifications offered). The main function of this output is to train VET providers in the strategic identification of the appropriate ways of using tracking data to monitor any of the abovementioned parameters of provision quality. A digital tool will be developed to assist in the process. Reviewing existing feedback loop mechanisms at VET provider level will determine the ways in which quality parameters are monitored and used as part of quality assessment procedures undertaken at VET provider level; the objective is to assess the relevance or correlation of these measures to graduate tracking data with the aim to increase usability of the latter. A methodology and criteria for the effective use of tracking data will be developed. A set of criteria and a procedure by which different types of tracking data can be matched with provision quality parameters.



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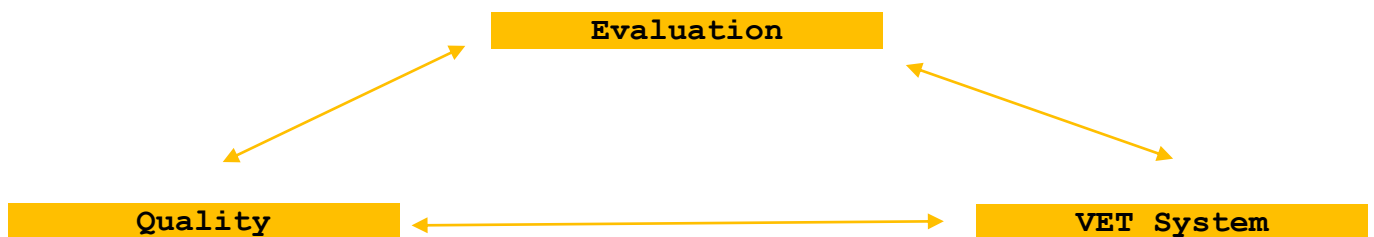
## “LINKING VET PROVIDERS’ PERFORMANCE ASPECTS WITH GRADUATE TRACKING OUTPUTS”

### 1. Introduction

For the evaluation of the quality of vocational training to be meaningful, two important aspects are required:

- An internal verification with the procedures, skills and tools needed to assess and control quality levels.
- An external verification, based on an external testing device, with the necessary instruments to reliably verify quality obtained.

The concepts of quality and evaluation require, in the educational field, to be addressed together. In other words, it is necessary to establish the quality references for education in general, and for vocational training in particular, in order to carry out the evaluation of vocational training.



The concept of quality is understood from the achievement of the improvement of the vocational training system in terms of the results obtained (effectiveness), and also from the analysis of the relationship between the efforts employed and the results obtained (efficiency).

The analysis of the quality of the Vocational Training system requires, in the first place, the identification of the quality factors of the Vocational Training System, that is to say, those aspects of the system that determine and characterize its quality, that is, the degree of achievement of the general objectives assigned to it.



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On the other hand, it is important that the evaluation of the quality of the system is also made on the basis of the self-evaluations of each of the centres, therefore it is necessary that the centres have procedures and instruments that allow them to evaluate and self-control the levels of quality that they are achieving. For this reason, it is a key issue to implement a quality management model in each centre, assumed by all those involved in management and training.

The availability of a set of Quality indicators allows the evaluation of the degree of effectiveness and efficiency of the Management System of the Centres that provide Vocational Training.

one of the biggest problems in improving vocational training centres is the lack of reliable information to enable both management and educational administration to make decisions.

It is fundamental to design, implement and execute a System of Indicators that is commonly accepted by all the interest groups of the training centre, an instrument of information, internal and external, for improvement, that is useful for decision making about each centre individually and about the regulated training system as a whole.

"An indicator is a observable manifestation of a feature or characteristic of one or more variables of interest, subject to evaluation, which provides quantitative information and / or qualitative about said characteristic. An indicator thus conceived, allows estimate the magnitude or intensity of a variation and consequently act as presumptive or corrective manner. "

## **2. Basic Indicator Requirements**

1. They must fully reflect the fulfillment of the institutional objectives.
2. Indicators should avoid being conditioned to external factors, such as the situation of the country or actions of third parties, whether public or private.
3. They must be known and accessible to all levels of public administration, as well as the public user.
4. The indicators must emanate from a participatory activity, that is, in the development process should involve all relevant actors, of in such a way that their legitimacy is guaranteed and the commitment to the task of evaluation and measurement.

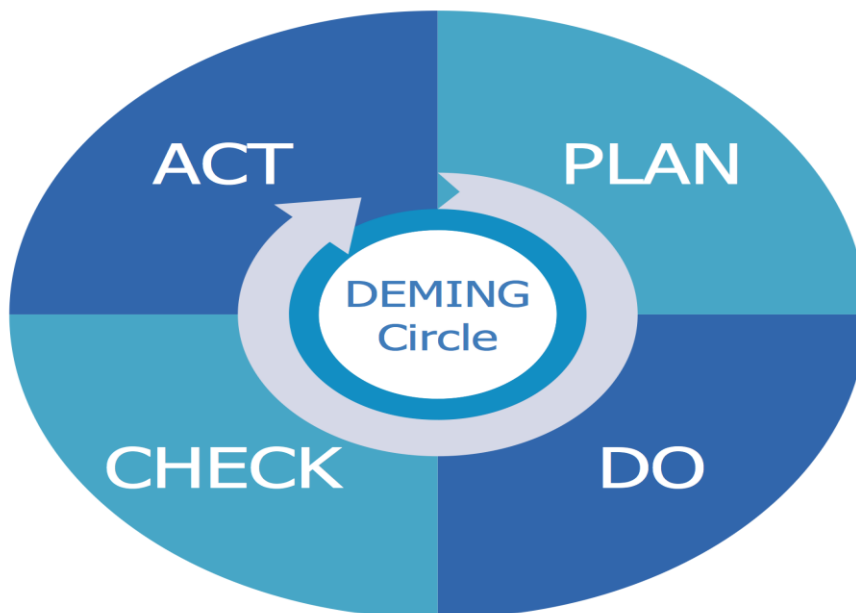
The measurement of these indicators is intended to account for the activity, productivity and quality of service provided by each of the educational institutions. In short, the measurement must provide a profile of what Every organization is and does.



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### 3. Methodology

The proposed integrated approach to project development is based on the PDCA cycle, shown in the figure below. The PDCA (Plan-Do-Check-Act) cycle is a basic methodological process to carry out the improvement activities and maintain the improvements.



**PLAN:** Phases 0 & 1

**DO:** Phases 2 & 3

**CHECK:** Phases 4 & 5

**ACT:** Phase 6



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## PLAN:

### Phase 0 – Project Plan

1. Initiation of phases
2. Duration of each phase
3. Responsible for each phase
4. Economic resources
5. Infrastructure resources
6. Personal resources

### Phase 1 – State of the Art Study

Study of the current situation regarding the definition of quality indicators in the National Education System for Vocational Training.

## DO:

**Phase 2 - Creation and training of a panel of experts such as Inspectors of Education and VET Teachers**

### Phase 3 - Creation of a pilot Quality Indicators Catalogue

**3.1.** Identification of the **interest groups** of a VET Center. to be able to design the indicators of the management of a VET center it is essential to identify the groups that are affected by the result of the management of the center. 3 interested group have been identified :

1. User's center: Students (1)
2. Center staff: Teaching staff (2) and administrative and service staff(3).
3. Society: Inspector of Education (4), companies Employers (5), environment [parents, small businesses, neighborhood association, etc.] (6), local administration (7) and educational administration (8).





**3.2.**Determination of the **quality dimensions** to be measured for each group of interest. The following dimensions were identified:

INTEREST GROUP	DIMENSION
STUDENTS	1.Student Satisfaction
CENTER STAFF	1.Motivation of administration and services staff
	2.Motivation of teachers
	3. Satisfaction of administration and service staff
	4. Satisfaction of teachers
SOCIETY	1. Satisfaction of inspectors of education
	2. Satisfaction of company employees
	3. Satisfaction of environment
	4. Satisfaction of local administration
	5. Satisfaction of educational administration

**3.3.** Determination of the **quality indicators** of the management of the center.

**Types of indicators:**



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**A. Measures of perception of interest groups:** Perception of interest groups in the management of the VET center.

**b. Performance indicators:** Internal and direct measures on the VET center's processes, which allow them to be compared with the objectives set in the planning of the institution, and improve their fields, while making predictions about perceptions of interest groups.

### 3.4. Indicators.

1. Measures of perception and performance indicators of students.
2. Measures of perception and performance indicators of teachers.
3. Measures of perception and performance indicators of Administration personnel and services.
4. Perception measures and performance indicators of education inspectors.
5. Perception measures and performance indicators of companies employees.
6. Perception measures and performance indicators of the VET center environment.
7. Measures of perception and performance indicators of the local administration.
8. Measures of perception and performance indicators of the educational administration.

## CHECK:

### Phase 4. Catalogue Validation

At this stage, the experts must validate the catalogue of indicators.

Scale of indicator values:

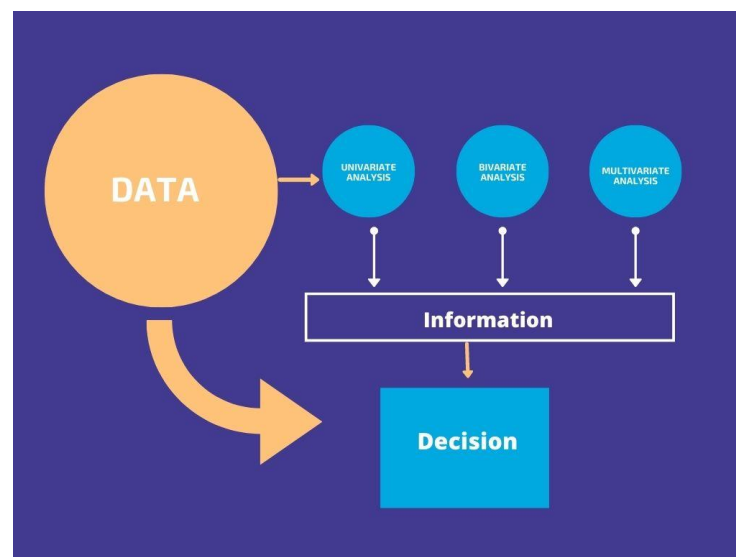
- 1 - NO IMPORTANCE
- 2 - LITTLE IMPORTANCE
- 3 - RELATIVE IMPORTANCE
- 4 - VERY IMPORTANT
- 5 - MUCH IMPORTANCE



## Phase 5. Analysis and interpretation of results: validation of the catalogue of indicators

The aim of this phase is to reach consensus on the final catalogue of indicators. Statistical analysis of the results of the validation of the pilot catalogue, according to the following stages:

- Univariate and bivariate descriptive analysis: individualised study of each item or variable; study of relationships between pairs of variables
- Multivariate analysis: the use of certain multivariate statistical methods is essential to achieve an understanding of the phenomenon being studied.





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Once the results have been analysed, consensus sessions are held, consisting of:

1. Presentation of the overall results by experts. The aim of this phase is to detect if there is any expert who differs significantly from the rest of the experts, both in terms of average and dispersion, in which case this expert's score is withdrawn, although he continued to participate in the creation of the definitive catalogue.
2. Presentation indicator by indicator of the scores awarded by each expert. During this phase, the scores awarded are discussed and an attempt is made to reach a consensus on the dimension that measures the indicator and its definition.
3. Identification of key indicators. The aim is to reach consensus on the indicators that should be considered key in the final creation of the catalogue. Consensus is a Key Indicator pointed out by more than 80% of the experts.
4. Identification of the indicators to be removed from the pilot catalogue The indicators that, after consensus, are qualified as void by 80% of the experts would be eliminated.

**ACT:**

**Phase 6 - Design of the catalogue of quality indicators and presentation.**

#### **4. QUALITY INDICATOR CATALOGUE**

The catalogue of indicators is divided into 2 groups:

- 4.1.- Measures of perception of interest groups
- 4.2.- Performance indicators of the centre.



#### 4.1. Measures of perception of interest groups

These measures are related to the perception of the different interest groups of the management carried out in a VET centre.

The main group of interest are the students - and specifically the graduates – however, other groups are analyzed because they are connected.

The structure of the catalogue of these measures is:

<b>GROUP OF INTEREST</b>	<b>DIMENSION</b>	<b>SUBDIMENSION GROUP OF PERCEPTION MEASURES ASSOCIATED WITH:</b>
<b>Students</b>	<b>1. Level of student satisfaction</b>	<ul style="list-style-type: none"> <li>• Satisfaction with the image of the center.</li> <li>• Satisfaction with the organization, operation and administrative management of the centre.</li> <li>• Satisfaction with key processes.</li> </ul>
<b>Staff of the VET Centre</b>	<b>1. Motivation of administration and services staff</b>	<ul style="list-style-type: none"> <li>• Motivation to participate in activities that promotes the center.</li> <li>• Motivation with the tasks performed.</li> </ul>
	<b>2. Motivation of teachers</b>	<ul style="list-style-type: none"> <li>• Motivation to participate in activities that promotes the center.</li> <li>• Motivation with the tasks performed.</li> </ul>
	<b>3. Satisfaction of administration and services staff</b>	<ul style="list-style-type: none"> <li>• Sat. with the centre's management and organizational structure.</li> <li>• Sat. with staff relations at the centre.</li> <li>• Sat. with the operation of the center.</li> <li>• Sat. with the reputation of</li> </ul>



		<p>the center.</p> <ul style="list-style-type: none"> <li>• Sat. with center facilities.</li> </ul>
	<p><b>4. Satisfaction of teachers</b></p>	<ul style="list-style-type: none"> <li>• Sat. with the centre's management and organizational structure.</li> <li>• Sat. with staff relations at the centre.</li> <li>• Sat. with the operation of the center.</li> <li>• Sat. with the reputation of the center.</li> <li>• Sat. with center facilities.</li> </ul>
<p><b>Society</b></p>	<p><b>1. Satisfaction of the educational inspection.</b></p>	<ul style="list-style-type: none"> <li>• Sat. with the functioning of key processes.</li> <li>• Sat. with the operation and internal organization of the VET center.</li> </ul>
	<p><b>2. Satisfaction of the companies and other entities collaborating with the VET center.</b></p>	<ul style="list-style-type: none"> <li>• Sat. with trainees.</li> <li>• Sat. with the VET center management.</li> </ul>
	<p><b>3. Satisfaction of the local administration</b></p>	<ul style="list-style-type: none"> <li>• Sat. with the management team.</li> <li>• Sat. with the internal processes of the VET center.</li> </ul>



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## Measures of perception of student satisfaction:

1. Measures of perception of student satisfaction with the reputation of the VET Centre as an educational institution.

Examples:

- Level of satisfaction with:
  - Vet System
  - European projects of the center
  - Reputation of the Vet Center
  - Facilities
  - ICT used in the center
  - Perceived availability of necessary facilities (labs, etc)
  - Satisfaction with VET centers' publication, staff involved and involvement in European Projects.
  - Offer of VET programs in the educational institution that meet the needs of the regional labour market (and/or economic sector)
  - Competitiveness of graduates in the labour market
  - Employer' satisfaction with the competencies acquired by employed graduates.

2. Measures of perception of student satisfaction with operation and organisation of the VET centre.

Measures relating to:

- Management of the centre.
- Relationship with the staff (administration/services).
- Administrative Management of the Centre.

Examples:

- Level of satisfaction with:
  - Management Team of the center
  - Solving claims and complaints
  - Teacher's punctuality
  - Attendance control system
  - Channels to report job offers
  - Perceived effectiveness of teachers provided guidance and support
  - Perceived effectiveness of induction and welcoming activities



- Perceived availability of extra-curricula activities
- Perceived responsiveness with Alumni staff (e.g. communication with degrees office etc)
- Correspondence of vocational teachers' qualification (subject, pedagogical) to the requirements of the program

3. Measures of perception about student satisfaction with the functioning of key processes. Such as:

- The teaching-learning process.
- Training Process in Workplaces (FCT).
- Process of finding a job.

Examples:

- Level of satisfaction with:
  - Training cycle programming
  - Teaching methodology
  - Assessment processes
  - Workplacements
  - Orientation
  - employment related to career opportunities
  - Perceived availability of subject áreas in the training cycle programming
  - Perceived effectiveness of teachers level of knowledge and expertise
  - Perceived effectiveness of teachers training methods
  - Perceived difficulty of assessment procedures
  - Perceived availability of offered work-placements
  - Perceived availability of offered career opportunities
  - Perceived availability of additional training resources
  - Digital Operating in a virtual learning environment
  - Providing feedback
  - Modeling individual learning compliance of session schedules with community needs; solutions for the organization of theoretical and practical training relevant to the quality of teaching; providing appropriate and timely assistance to the student (pedagogical, psychological, etc.); combining individual and collaborative learning; providing feedback in the learning process.
  - Teaching and learning resources. The latest technologies are used to teach theory (smart boards, internet, simulators, ICT / computer programs). The practical training base is modern and meets the needs of the labor market. The availability of material resources, sufficiency for organizing the teaching process. Modernity of material resources and compliance with the needs of the labor market. Adaptation of the material base for students with special educational needs and modernity of methodological resources and compliance with the needs of the labor market





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#### 4.2.- Performance indicators of the centre.

These are internal and direct measures on the processes of the centre, which allow them to be compared with the objectives set in the planning of the centre, and to improve its performance, at the same time to make direct predictions about the perceptions of different groups of interest.

Some indicators are predictors of various dimensions, it is advisable to detail :

- Description.
- Dimension they predict (percentages and figures)

The structure of the catalogue of student performance indicators is as follows:

GROUP OF INTEREST	DIMENSION Performance Indicators predictive of:
<b>Students</b>	<b>1. Student satisfaction with the VET school's image</b>
	<b>2. Student satisfaction with the organisation, operation and administrative management of the school</b>
	<b>3. Student satisfaction with the school's key processes</b>



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Some indicators are predictors of various dimensions, it is advisable to detail :

- Description.
- Dimension they predict (percentages and figures)

<b>Dimension:</b>	<b>1</b>	<b>2</b>	<b>3</b>
Percentage of the Centre's budget dedicated to its promotion			
Number of documents published by the Centre to promote it			
Number of documents published by the Centre to inform about the organisation and functioning of the teaching and administrative staff of the Centre.			
Number of documents published by the Centre to inform about the rights and duties of the students.			
Number of informative documents published by the Centre to inform about its Internal Regulations.			
Number of documents published by the Centre to inform about its projects.			
Number of conferences held at the Centre to introduce the Centre's teaching and administrative staff to the different sectors.			
The number of social days held at the centre between teachers, administrative staff and students.			
Number of days held at the Centre to provide information on vocational training.			
Number of conferences held in the Centre to inform about the labour insertion of the students.			
Percentage of complaints and claims resolved satisfactorily			
Total number of complaints formally presented by the students of the Centre			
Percentage of complaints and claims from students due to the image of the Centre.			
Percentage of complaints and claims from students due to the organisation, operation and administrative management of the Centre.			
Percentage of students who know about the VET Centre's Institutional Projects.			



Percentage of students who perceive the achievement of labour insertion objectives planned by the VET Centre			
Percentage of students who know about the European programmes managed at the VET centre.			
Percentage of students who know the entities collaborating with the VET Centre			
Percentage of students who would recommend the VET Centre to others			
Percentage of students who believe that the structure of the centre is appropriate to the learning process.			
Percentage of students with a part-time employment contract			
Percentage of students with a permanent employment contract			
Percentage of the student body with a temporary employment contract			
Percentage of students who enter the labour market the year after finishing their studies.			
Percentage of unemployed students, with studies completed at the Centre.			
Percentage of companies in the area that offer internships at the Centre.			

## 5. ANALYSE THE DATA

Once the results of its statistical survey have been compiled, the process of calculating the results begins. Quantitative data (compared to qualitative data analysis) are analysed, from the observation of the answers, the approach of the main research questions, the objectives of the survey, the processing of the numbers and the elaboration of conclusions.

First of all, these 4 steps are checked:

### 1. Analysis the main research questions.

Analysis of the initial questions, if they are empirical research questions and if probabilistic sampling is used.

The main questions of the survey are established based on the objective of the investigation.



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## 2. Cross-data tabled filtering the results.

A cross data tabulation must be carried out to analyze the answers to the same questions asked to the different groups, teachers, students or companies.

Another aspect to consider is the comparison of the results in reference to previous years. For example, what is the reason for an increase in student satisfaction regarding last year.

If previous data is not available, benchmarking can be used. A baseline or initial number is established and changes in trends are analysed. Satisfaction and answers to other questions are compared to a reference point. This is called longitudinal data analysis. Another choice is to track data for different subgroups. For example,

let's say that satisfaction rates increase year by year for students and teachers, but not for administrative staff. Their responses can be observed to analyze why they are less satisfied than other key groups.

## 3. Analysis of the figures.

It is important to pay attention to the quality of your data and understand the components of statistical significance (also called statistical significance).

In the field of statistics and survey interpretation, "significant" means "an assessment of accuracy." This is where we inevitably face the "more or less". In particular, it means that the survey results are accurate within a certain level of confidence and not due to chance. Drawing conclusions based on results that are not accurate (that is, not statistically significant) is risky. The first factor to consider in any evaluation of statistical importance is the representativeness of your sample, that is, if the group of people you included in the survey represents the total population of people from whom you want to draw conclusions.

## 4. Conclusions.

The conclusions are a reflection of the data obtained.