



Tracking Learning and Career Paths of VET
graduates to improve quality of VET provision



ESTABLISHING A VET GRADUATES TRACKING SYSTEM

GUIDELINES FOR VET PROVIDERS

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Contents

Introduction.....	4
Chapter 1. Relevance and importance of VET graduate tracking systems ...	7
Chapter 2. Establishing a VET graduates tracking system at educational institute level	23
Chapter 3. Integration of the VET graduate tracking system into the organisation's quality assurance system	51
Chapter 4. On Track methodology	64
Conclusions	71
Appendix 1: Case studies	73
Appendix 2: Institution checklist	89
Appendix 3: Establishing procedures for tracking surveys	93
Appendix 4: Description of the seminar	97
References	101

Intro duction



Introduction

This publication is a product of the Erasmus+ project 'On Track - Tracking Learning and Career Paths of vocational education and training (VET) graduates to improve the quality of VET provision'. The project On Track has developed a tracking system for VET graduates of initial vocational education and training institutions.

The purpose of this guide is to support Vocational Education Institutions (VET providers) on their way of implementing or improving their own graduate tracking system and suggest a clear step by step process of implementation with practical examples.



Why would an educational institution need a systematic graduate tracking process?

There is a need to continuously improve the quality in educational institutions, which is also the aim of European Union and is mentioned as one of the EU policy priorities (based on Council Recommendation of 20 November 2017 in tracking graduates). Quality of education is not about a standard that the educational institutions need to match, rather it is a wish to improve and to develop continuously. Therefore, the institutions are seeking for information from different sources to support the quality development initiatives: this makes graduate tracking one of the very important sources where one can acquire many valuable inputs for institutional advancement.

Educational institutions usually build some systematic elements aiming at tracking their graduates, or at least apply some partial or informal monitoring of their employment in the labour market and their participation in further education. The decision to build a tracking system is important, but firstly, it is necessary to understand the motivation, goals, and expectations of the future tracking system. The ways in which information tracking systems are set up, relate to the fundamental question, namely, what is education for us. For both the individual and society, education is an investment like that in physical capital. Investing in education generates a stream of future benefits for the individual, such as higher income, and leads to a more productive economy for society.

The specific motivation for graduate tracking differs for every institution, but there are some common points. In educational institutions, many changes concerning the student-centred approach are happening; educational institutions are being compared on a more detailed level than ever before. Nowadays, almost every education provider feels responsible for the employability of its graduates, and it is becoming much easier to track the graduates, as there are more possibilities in the field of information technologies.

The tracking system not only provides feedback for VET providers, but it can also provide input to the design of VET qualifications and programmes, for the planning and implementation of learning processes as well as for other additional services.

This guide contains information on the relevance and importance of a VET graduate tracking system, also on establishing a VET graduates tracking system in the institution, suggestions on the integration of a graduate tracking system into institution quality management and explanations on the OnTrack project graduate tracking methodology. Additionally, six case studies describe the experience with graduate tracking, and “checklist” for institutions is also included, which contributes to the understanding of the institution's readiness for the graduate tracking process, as well as other valuable documents attached to this guide.



Chapter 1

Relevance and importance of VET graduate tracking systems



Chapter 1



Relevance and importance of VET graduate tracking systems



TRACKING SYSTEMS OF VET GRADUATES

Following graduates on their pathways through further education and labour market transition in Europe is done to fulfil very different motivations:

- ✔ At national or educational policy level, it is done to assess the quality of educational systems as such;
- ✔ at regional or sectoral level, tracking takes place to adjust educational provision to labour market and regional needs;
- ✔ at institutional level, tracking has to provide information for the further development of institutions and educational programmes themselves.

Graduate tracking systems are becoming an emerging priority in many European Member States. Good quality information on VET graduates is important for the understanding of employability difficulties as well as possible success factors. Although some Member States have developed graduate surveys or systems to analyse administrative data, the systems for collecting and analysing data on the outcomes of graduates are not well developed in many countries. Moreover, the exchange of knowledge about good practice and mutual learning is very limited. Additionally, data is often collected only nationally and is, therefore, not comparable between the Member States and consequently, it is difficult to learn from different approaches across the EU.

The “*Council Recommendation on tracking graduates 2017*” (2017/C 423/01) sets out broad guidelines on tracking graduates and invites Member States to support EU-level activities to improve the availability of comparable qualitative and quantitative information about graduates.

The European Commission has funded several studies and various activities to improve the practice of tracking and building further capacities. OnTrack is another project of the European Commission that focuses on the development of a graduate tracking system. In the “*Context Study of Tracking Systems and Measures*” (Humpl et al, 2019), various differences in the tracking measures and already established tracking systems can be identified in seven partner countries. Here are some examples:

But what does ‘tracking graduates’ mean?

At European level, there is no agreed definition of graduate tracking. According to the TRACKIT study (Gaebel et al, 2012), tracking can be described as the collection of “information on students or graduates with regard to their learning progress, skills acquired, perceptions, jobs etc. between at least two points in time, through aggregated or individual level data, mainly via administrative processes and surveys.”



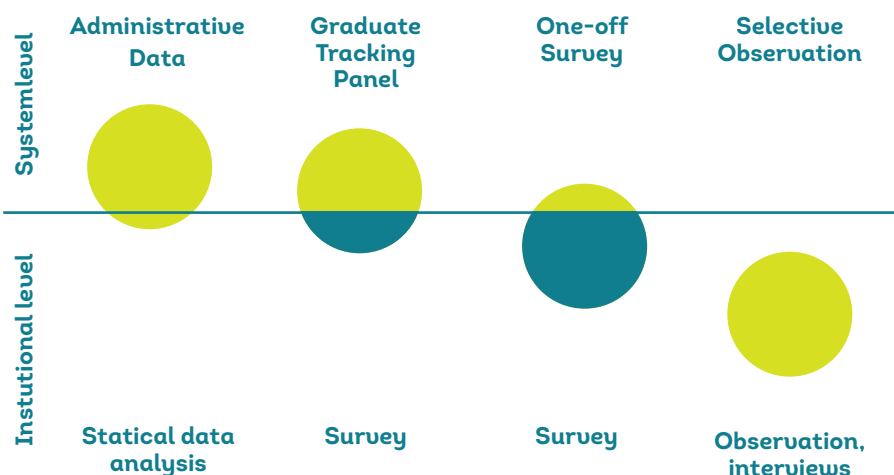


Figure 1: Methodical approaches. 3s own description

The graphic presents different methodological approaches to tracking systems on different levels. OnTrack (shaded area) focuses on the institutional level, especially the graduate tracking panel and one-off surveys which are done in the form of a survey.

Several methods are possible to track graduates: statistical monitoring through administrative data, statistical monitoring combined with surveys, analysis of survey data. These tracking methods can be further distinguished into one-off measurements or repeated measurements.

From two studies (DG EAC, 2020; DG EMPL, 2018), that mapped various VET graduates tracking measures across the EU, a wide variety of different approaches can be identified at all levels; national, regional, sectoral and/or VET provider level. There is a need to assess whether data is comparable on EU-level and to develop a common structure for data collection and data analysis processes. Additionally, consistency

and accuracy of the collected information through tracking measures need to be ensured by a quality assurance process, that will check indicators such as completeness, consistency and depth of information that was presented.

The main criteria of a graduate tracking system should be set to assess the effectiveness of national education and training systems and of each educational institution's system as well. Graduate tracking systems examine data on educational institution leavers at national and institutional level as well as on the labour market. Graduate tracking systems present the transition processes from educational institutions to working life and from one educational institution to another educational institution; collecting data on the employment of graduates in the field of education; collecting information on first job experience and the quality and appropriateness of the training they have received.



VOCATIONAL EDUCATION NATIONAL LEVEL INDICATORS

Tracking of students and graduates may be the responsibility of the national/regional government or an initiative of the educational institution itself. National institutions evaluate the whole vocational education sector, the performance of educational institutions, the efficiency of the public expenditures spent, and finally the employment of graduates of individual educational institutions on the labour market. This tracking is more of a macro view, compares vocational schools with one another, and the main goal is to assess the vocational education sector in relation to the employability of its graduates. In particular, the gaps between the education and employment sectors are assessed. In this case, the key indicators of tracking are employability, the percentage of unemployed after graduation, and the employability of graduates in their field of education. Other indicators are the wages of graduates in their first job and after several years (e.g. 5 years). The state administration has the advantage of storing data on both students and graduates who are in the labour market as employed or registered with labour offices. Thus, it has the necessary information about the employment/unemployment. If deemed interesting, the state administration has accurate data on wage levels from employees' tax payments. Therefore, the government is in a different situation than vocational institutions, which usually do not have detailed data on their graduates at disposal. We can say that the national graduate database lacks only graduates who have resided abroad, or they are out of employment and they are not registered as unemployed at the same time.

What the state administration does not have directly available is data on graduate employment in their field of study, therefore tracking or an additional survey is needed to evaluate employment in the relevant branch of knowledge.

The large-scale use of graduate data creates a massive database and aggregated results can be made available to the public. This has an impact on the choice of educational institution, as each candidate can access the information collected in one place, including information on educational quality and salary expectations. Tracking is based on the societal demand for relevant information on the employment of VET graduates, which would lead to a rationalisation of decision-making by all actors in the labour market and the formal education system and contribute significantly to eliminating existing disparities in the labour market.

GRADUATE TRACKING METHODOLOGIES AND APPROACHES

When it comes to tracking graduates, there are different approaches to obtaining information about them. Several aspects need to be taken into consideration, for instance, whether it is a measure on the system level or institutional (vocational institution) level.

Different collection methods are used depending on the level at which the graduates are tracked:

- ✔ Administrative data;
- ✔ Graduate Tracking Panel;
- ✔ One-Off/Repeated Survey;
- ✔ Selective Observation.

On the system level, the approach to track graduates is often centralised, where common indicators are used to allow a potential comparison of graduates, courses or institutions. The kind of tracking depends on the motivation of the public authorities, which are the owners of the collected data. Public interest considerations, for instance quality assurance of educational institutions or macroeconomic planning, have an impact on the variety of indicators. Therefore, tracking data may be limited to specific aspects, which cannot be compared with other data. System level graduate tracking relies mostly on administrative data as well as graduate tracking panels and occasionally blends the data from different sources. Very often, only a general overview of the data is made and in an aggregate form, which is not sufficient to identify the necessary details.



ADMINISTRATIVE DATA VERSUS SURVEYS: ADVANTAGES AND DISADVANTAGES



Several tracking measures regarding graduates are based on administrative data. Administrative data is usually collected by the national statistical services and at the European level by Eurostat. These institutions have a legal obligation to assemble a specific administrative database for statistical and administrative purposes. In some countries, the access to administrative data can be limited and the access may be granted only for some research institutions for specific purposes. Therefore, the usability of such data is very limited. With administrative data, one gets a general overview of the situation of graduates, especially some statistics regarding a handful of topics (e.g. the employment rate of recent graduates). However, it is not easy to get any specific indicators from administrative data and to identify the reasons why a graduate is or is not employed. If a more detailed picture of the trends and patterns within the transition from education to work is needed, surveys can be used to present the different challenges for young people.

Data from surveys are often collected by institutions. It is therefore a question whether that information is available for the broader public. Institutional-level data is, similar to administrative data, available within certain limits. Institutions may not release data and tracking results that are not favourable for the institution and want to protect their reputation. Additionally, institutions may resist publishing the results, because it can be used for ranking and comparison, which may not adequately reflect the differences in inputs or disfavour specific institutions that serve a particular community or region.

Consequently, the possible advantages and disadvantages of the different kinds of information obtainable from administrative data or surveys should be considered. There are various arguments for and against using administrative data as well as more elaborated surveys.

1. ADMINISTRATIVE DATA:

Advantages

- ✓ On system level and therefore (maybe) easier to access;
- ✓ Broader coverage of students and graduates;
- ✓ General overview of the situation;

Disadvantages

- ✗ Data may not be conclusive enough;
- ✗ No detailed information;
- ✗ Interlinkages between different datasets may be difficult;

2. SURVEYS:

Advantages

- ✓ Detailed information is possible;
- ✓ Interlinkages are easier to indicate between different indicators;

Disadvantages

- ✗ Time consuming;
- ✗ More resources are necessary;



MOTIVATIONS AND CHALLENGES FOR EDUCATIONAL INSTITUTIONS TO CARRY OUT TRACKING

As outlined before the motivation to carry out tracking is different for specific stakeholders. Educational institutions, such as VET providers or HE institutions, use tracking for different purposes, e.g.:

- ✔ To get feedback on the quality of the education provided;
- ✔ to improve the content and provision of education;
- ✔ to renew curricula due to changing labour market requirements;
- ✔ to stay in contact with alumni to broaden the outreach network of the institution;
- ✔ to prove the quality to be used for marketing and to attract further possible students.

Usually, the access to administrative data for tracking graduates is very limited: administrative data is more often used by educational policymakers. Therefore, educational institutions often need to carry out surveys. However, carrying out surveys means that several preconditions must be fulfilled by the institution:

- ✔ Contact details for graduates must be available and up to date;
- ✔ a contacting pathway must be established (either personally, by phone, by mail, by social media, or by email, etc.);
- ✔ a questionnaire has to be designed to get relevant feedback which fits the motivation of graduate tracking;
- ✔ response to the questionnaire must be tracked, measures to enhance response rate may have to be implemented;
- ✔ responses must be analysed and interpreted.



INTEGRATING GRADUATE SURVEY RESULTS INTO THE INSTITUTION

To make graduate tracking relevant to the institution, tracking information must be taken into account for the further development of educational programmes, institutional development, network activities, or marketing to attract potential students. Different stakeholders need to be considered within the process of integrating the results of graduates tracking systems into the institution.

- ✔ **Graduates:** they can provide overall feedback on their study programmes;
- ✔ **Employees:** they can provide information about labour market conditions and how their study programmes influenced their careers;
- ✔ **Agents between work and education:** they have the perspective of both worlds; their feedback is therefore relevant.

The internal quality assurance should focus on two main elements:

Institutional development:

- ✔ Marketing;
- ✔ Partnership;
- ✔ Student Life;
- ✔ Feedback Culture;

Development of Study Programme:

- ✔ Curriculum development;
- ✔ Delivery of curricula;
- ✔ Teaching staff involved;
- ✔ Contact with the labour market;

Graduates play an important role within the quality assurance process because with their feedback they can give many insides that are necessary for further institutional development as well as the development of study programmes.



The input from graduates is important for various aspects of internal quality assurance and quality development processes:

Marketing: The institutions can show with the feedback of graduates the employment rates and career examples as well as non-linear career pathways, positive feedback to study programs and the institution itself. Some graduates can act as “role models” and recent partners of the institution.

Partnership: Graduates can ask their employers, if they would act as partners: even though the feedback rate on this may be low, it may be highly relevant for the institution. Additionally, graduates in relevant companies for the field of employment can be invited to join the curriculum development meetings. Some graduates can also be asked to act as teachers for the prospective graduates.

Student life: Graduates can point out in their feedback what they liked/did not like/miss at the institution. This information can be taken for institutional reforms (e.g. new cafeteria, rooms for informal meetings, etc.). Positive aspects about the student life can be also used for marketing purposes.

Feedback culture: • The feedback of graduates is often more reflective than the feedback of current students, because they know not only one course, but the whole study programme: they will not have any doubts, fears or hesitations to state their opinion and provide their truthful feedback after having graduated. The results from graduate surveys should be taken seriously into account by all institutional bodies and study programme working groups. A high respect for feedback will improve the overall feedback culture from students to the institution.

Curriculum development: When graduates point out that specific courses are useless or badly delivered, this feedback should be reflected in curriculum evaluation. Additionally, the graduate's further education as well as the recent labour market requirements should be reflected in the curriculum development. Even bipolar feedback can be used in curricula (e.g. by developing elective courses).

Delivery of curricula: Most graduates' feedback focuses on the didactics, i.e. the various forms of teaching and learning, the exam- forms of the course or study programme, rather than the content itself. The feedback to exams and assessments can differ from student feedback. Study programme coordinators need to provide feedback to all teaching staff and discuss possible changes and adjustments.

Teaching staff involved: Sometimes, teaching staff was changed (but never only because of the graduates' feedback) and graduates have the chance to name other relevant experts for specific fields.

Contact to labour market: Graduates can be a link to the labour market because they know about internships and their assessments from their own experience and their current perspective of being employed. They can be also seen as contacts for prospective graduates regarding possible internships. Graduates can also act as teachers and mentors and establish future partnerships with the study programme at the institutions.

It is important that the development of study programmes and curricula needs to be done as a whole process, otherwise, it will demonstrate only one piece of the puzzle. It is also crucial that the feedback is reflected by a wider group. It needs to be compared with changes within the last years, because the feedback could come to a situation that is not the case anymore, because adjustments were already made.

Furthermore, relevant feedback mechanisms need to be established (e.g. regular feedback talks between programme coordinator and teachers as well as a high feedback culture among the teaching staff).



The quality processes should also focus on two main elements:

The institutional evaluation, (such as the accreditation every few years or the established quality management cycles) as well as the study programme evaluation (such as student feedback), are two main parts of the quality assurance and quality development.

Institutional Evaluation

- ✔ Accreditation every few years;
- ✔ Total Quality Management with ongoing quality cycles;

Study Programme Evaluation

- ✔ Teaching and learning processes;
- ✔ Form and timing of exams and assessment;
- ✔ Student feedback culture;
- ✔ Contact with the labor market;



FURTHER POTENTIAL OF VET GRADUATES TRACKING SYSTEMS

Within the EU, Member States, and national policy makers, the growing importance of VET graduate tracking systems is substantially realised, with the improvement of the quality assurance of education and training systems considered essential. Tracking systems can provide reliable information on graduates' success in employment. Holding this information, stakeholders can respond to labour market needs by adapting the policies, courses and curricula.

All stakeholders are potential beneficiaries who have different reasons to use graduate tracking systems:

- ✔ **EU and national policy makers** can make better informed decisions upon updated information given in regard to funding and supporting educational programmes and providers, public procurement of training programmes for unemployed, recruitment campaigns as well as other public policies. The overall performance of educational providers in relation to graduates' employability can be assessed better. Additionally, mismatches between education and labour market can be revealed easier.
- ✔ **Educational institutions** can improve their courses and delivery methods that would better match students' preferences as well as extend the range of other services that could help graduates in the transition from study into the labour market, such as career advice, internships, work placements etc. Additionally, information can be used as a marketing tool, which will attract more international students.
- ✔ **Individuals:** Students get more information about the opportunities and possibilities of various education programmes that are offered by different institutions. Employers may use the data to influence the development of curricula and improve placements and tailor apprenticeships to young workers' needs. The research community is also interested in greater data availability about education and training systems for more profound research.

Graduate tracking systems can also improve the advancement among VET providers:

- ✔ Nowadays, many educational institutions compare and benchmark themselves with other educational providers. The data from the tracking systems can be used to compare several providers, often within a particular sector or area. It can be done either at the system level or at institutional level. Additionally, individual courses, programmes and institutions can be compared and ranked.
- ✔ Most educational institutions already use feedback from students and graduates often for strategic planning, such as advancements for study programmes. The relevant data collected from graduate tracking systems will contribute to better identify the skills needed in the labor market.

The On Track project offers a potential further use of tracking at VET provider level, since the new tracking system is based on a standardised process. This standardised process can help the VET providers to enhance their developments.

The new tracking system will focus on VET graduates and provide feedback and input to the quality assurance system of the VET providers. Through the standardised process, gathering, analysing and interpretation of data becomes easier. VET providers can use the information and knowledge received from the data for their future performance and a better adaption to the labour market needs as well as their students' desires.



Chapter 2

**Establishing a
VET graduates
tracking system
at educational
institute level**



Chapter 2



Establishing a VET graduates tracking system at educational institute level

Establishing a VET graduate tracking system at educational institution level is a systematic process that requires time, resources, commitment and a well-designed strategy.

Before measuring anything, it is important to:

- ✔ Set targets for all key results in line with the overall strategy of the educational institution;
- ✔ Segment results to understand the experience, needs and expectations of specific groups of interest;
- ✔ Understand the reasons of observed trends and the impact these results will have on other performance indicators, perceptions and related outcomes;
- ✔ Have confidence in institution future performance and results;
- ✔ Understand how the institution key results compare to similar organisations and use this data, where relevant, for target setting – “Benchmarking”.

It is recommended to prepare a plan, which should include what to measure, how to measure, responsibilities for measuring, data analysis, etc., including regularity. When setting the quality indicators to measure, it is essential to keep in mind:

- ✔ To measure only what is important for us (not to set up too many indicators);
- ✔ To segment – to ask the right questions to the right people;
- ✔ To set clear and real targets for all key results;
- ✔ To pilot test the proposed methodology, before its deployment at full scale. For example, if tracking is based on a survey, to conduct a small pilot survey, in order to verify the clarity of the questions for the respondents as well as the ability to evaluate the answers.

DEFINING OVERALL OBJECTIVES AND STRATEGY

The first step in the process of establishing a VET graduate tracking system is to define the overall objectives and the strategies of the educational institution. The reasons to establish a VET graduate tracking system can be very different. It may be a legal requirement, a tool to improve curriculum or training content or a tool to improve employability of VET graduates parallel to staying in contact with graduates. The definition of the overall objective of the VET graduate tracking system will guide the whole process i.e. the type of indicators that will be measured, the type of the questions that will be answered, the kind of data that will be gathered, etc.

The objective of the tracking system will also define the overall strategy i.e. how often the tracking will take place, how comprehensive it will be, what methodology will be followed. Moreover, if a sample survey or a population survey will be used, what resources the educational institution is willing to put in place and how the results of the tracking system will be used, should be exemplified.



Example of a graduate tracking plan

Objective	The tracking system of VET graduates aims to track graduates in their career paths and measure the relevance of their studies with their future career, examining technical skills and competencies but also transversal skills and competencies. The educational institution will use the tracking survey to improve the link of the provided education with the needs of the labour market
Indicators	Acquired skills and competences Required skills and competencies in the current job Employment (position, salary, satisfaction) Difficulty to find employment Career prospects
Tracking methodology	Data Collection Method: online survey, based on the standardized questionnaire Population: graduates of the last two years Frequency: annual
Resources	Staff: one coordinator, one technical staff and one administrative staff. Time: one month. Other: cloud-based survey software
Use for results	Improve services of the career office (connection with the labour market, career days, participation in exhibitions and fairs, occupational guidance, etc.) Improve curricula and apprenticeships

Table 1. IDEC own description

DEFINITION OF INDICATORS AND DATA TO BE GATHERED

The definition of the indicators to be measured is an important step, as indicators will guide the data that will be gathered and the questions that will be asked. Indicators are usually quantitative but may also be qualitative. Quantitative indicators refer to units of measurement. Examples include the number of graduates finding a job, average salary etc. Qualitative indicators refer to perceptions, feelings and other subjective judgments. For example, one's opinion of the quality of the study, etc

There are key factors to be considered in defining the indicators include:

- ✔ The indicators must be based on the objectives of the tracking system and should respond to the need of the educational institution for information.
- ✔ Indicators determine the type of data that will be collected and the questions that will be asked.
- ✔ The indicators will provide information that somehow will be used by the educational institution. There is no point to gather information that nobody will use.

There are different types of indicators that can be used in a tracking system. The most common quantitative indicators are numbers and ratios. There are also different types of qualitative indicators like properties, perceptions etc.



Example of different types of indicators

Type of indicator	Examples
Numbers	Number of graduates employed Number of graduates employed in their field of study Number of graduates employed within six months after graduation
Ratios	Number of graduates employed/total number of graduates Number of graduates earning more than 10,000 euro per year /number of graduates employed
Perceptions	Satisfaction with teaching subjects Utilization of knowledge and skills acquired during the study Satisfaction with the job

Table 2. IDEC own description

In the bibliography, one can find some common indicators of tracking surveys measure that are listed below:

- ✔ Number of graduates;
- ✔ Gender representation;
- ✔ Percentage of graduates continuing study;
- ✔ Percentage of graduates employed;
- ✔ Percentage of graduates registered unemployed at the labour office;
- ✔ Percentage of graduates self-employed, sole traders, or entrepreneurs;
- ✔ Average gross monthly wage;
- ✔ Wage median;
- ✔ The most common jobs of graduates;

- ✔ Key industries/sectors of employment;
 - ✔ Region of employment;
 - ✔ Key occupations;
- etc.

The educational institution can evaluate further qualitative data, related to the quality of education according to its needs. Some typical questions/indicators are listed below:

- ✔ Educational attainment after graduation;
- ✔ Employment status;
- ✔ Satisfaction with teaching subjects and specific teachers;
- ✔ The utilisation of knowledge and skills acquired during the study;
- ✔ Work position in the workplace;
- ✔ Employment in the field of study;
- ✔ Proposals for changes in education;
- ✔ Position within the employment;
- ✔ Satisfaction with career guidance;
- ✔ The time to find a job;
- ✔ Job satisfaction;
- ✔ The match between graduate's skills and job requirements.

All the indicators can be studied in relation to demographic characteristics – gender, age, socio-economic background, education performance, etc. It is clear that the tracking methodology must contain a set of questions related to each indicator.



TRACKING METHODOLOGY

The methodology for the VET graduate tracking system includes the selection of the appropriate data collection method, the potential use of existing administrative data, information about the population and/or the sample, the development of the specific tools that will be used for tracking and finally, the implementation of the survey and the analysis of the results. Here below, we present the proposed methodology, and in Appendix 3 an example of a standardised procedure that an educational institution can introduce and follow.

Data collection methods

For the collection of the necessary data, different methods can be used that have advantages and challenges. The most common method for collecting data is the survey. Nevertheless, there are other methods such as interviews or focus groups that can be used as well. In the following table we present the advantages and the challenges of each one of these methods.



Overview of main data collection methods

Method	Overall Purpose	Advantages	Challenges
Survey	to obtain information quickly and/or easily from a large sample of people in a non-threatening manner.	✔ can be completed anonymously. ✔ inexpensive to administer. ✔ easy to compare and analyse. ✔ can capture a large sample and get lots of data.	✔ might not get accurate feedback. ✔ difficult to design. ✔ impersonal. ✔ does not get the full story. ✔ inflexible.
Interviews	to understand someone's impressions or experiences fully or learn more about their answers to questionnaires.	✔ can cover the full range and depth of information. ✔ provides an opportunity to develop a relationship with the respondent. ✔ can be flexible, depending on the respondents.	✔ time consuming. ✔ can be hard to analyse and compare. ✔ can be costly. ✔ The interviewer can bias the respondent's responses.
Focus groups	to explore a topic in-depth through group discussion, e.g., about reactions to an experience or suggestion, understanding common complaints.	✔ get common impressions quickly and reliably. ✔ can be an efficient way to obtain large amounts and depth of information in a short time. ✔ can convey key information.	✔ can be hard to analyse responses. ✔ need a good facilitator for safety and closure. ✔ difficult to schedule 6-8 people together.

Table 3. Source: Adapted from McNamara, 2005



The choice of the appropriate data collection method depends on several parameters that the educational institution should decide beforehand. The main parameters that affect this choice are: the number of graduates to be reached, the type of indicators (quantitative or qualitative), how comprehensive the tracking should be, the available time, the financial resources that can be devoted for tracking and the skills of the staff involved in tracking.

If the educational institution needs to address the whole population of graduates, then a questionnaire-based survey seems the only feasible option. Interviews and focus groups can be used in combination with the survey, in order to provide further insights and qualitative data. In cases though, that the population is rather small, for example, if an educational institution wants to track graduates of a specific program, then a qualitative method can also be used.

The easier and most inexpensive method is the survey that can be easily implemented without the requirement of advanced research skills. Qualitative methods are more demanding in terms of time and also, in terms of the competencies of the involved staff.



How to use the existing administrative data

Educational institutions already have their own databases i.e. information systems or files with information about their programmes, courses and students. Administrative data, such as registrations, personal transcripts, work placements, certifications and awards can be used in combination with the graduate tracking system in order to obtain meaningful information and calculate quality indicators related to the profile of the students and their period of studies. These indicators can then be used in combination with the indicators derived from the tracking survey and refer to the path of the graduates, after finishing their VET programme.

The table below presents how an educational institution can utilize existing data for calculating qualitative indicators.

Administrative data	Indicator	Meaningful information / Possible use
Students inquires	Potential students / enrolled students	They provide information on the interest of students to specific programmes and courses and combined with the tracking survey may provide insights on the motivation of students, the attractiveness of programmes and courses.
Students registrations	Students enrolled per programme	
	Students enrolled in elective courses	
	Age / gender of students	Socioeconomic indicators provide information on the demographic segments of students and can provide insights for inclusion strategies.
	Previous studies	
	Socioeconomic status	
Students' progress	Duration of studies	Information on students' progress, combined with data from tracking survey can give useful information on students' motivation and commitment to their studies and to excellence as well as the difficulty of the VET programmes and courses.
	Retention, dropout rates	
	Students' grades	
	Students' awards	
	Work placements	

Table 4. IDEC own description

Surveys, on the other hand, can be used to get more detailed information from graduates, which cannot be captured through administrative data, for instance, the satisfaction with the studies and obtained knowledge. The educational institution will decide, if and how it can use existing administrative data in its tracking system.

Develop the questionnaire

It is clear that the survey is used to measure the tracking indicators: this should be reflected in the questions. It is a common mistake to create a questionnaire that contains many interesting questions, but the answers provided are unsuitable for evaluation. That is, the method of evaluating the answers must already be clear when creating the questions, such as multiple choice, rating scale, Likert scale, rank order or open-ended question. Once the survey has been conducted, it is no longer possible to go back and correct the ambiguous questions or improve chosen answer type. Instead, the following procedure is recommended: set survey objectives, assign variables / indicators to objectives, and finally create questionnaire questions.

Formulating the questions is a very important step. Questions should support the measurement values of the indicators. It is important that the questions are clear, simple and easy to answer. One should avoid complicated questions, questions that may include bias, or questions that the respondent may not be able or willing to answer. The following table provides some tips of better use of the language, to avoid common mistakes in questionnaires.



Tips for wording questions

Tips for wording questions	Instead of	Better ask
Will the respondents be able to answer your question i.e., do they know the answer?	How old were you when you got your first job?	When did you get your first job?
Will respondents want to answer the question i.e., is it too private or silly?	Why are you out of employment?	Which were the difficulties to find a job?
Will the respondent understand the wording i.e., are you using any slang, culturally specific or technical words or abbreviations?	Please rate the VET programme...	Please rate the vocational education programme...
Avoid using “not” in your question, if you are having a respondent reply with a “yes” or “no”, as it can create confusion.	Don’t you agree that...?	Do you agree that...?
To ensure you’re asking one question at a time, avoid the use of the word “and” in your question.	Please rate the career guidance and counselling services	Please rate the career guidance service, Please rate the counselling service
If you use multiple choice questions, be sure your choices are mutually exclusive and encompass the total range of answers. Respondents should not be confused about whether two or more choices appear to mean the same thing.	What is your age? ✔ 18-25 ✔ 25-30 ✔ 30-35	What is your age? ✔ 18-25 ✔ 26-30 ✔ 31-35
Respondents should also not be in the position of having a clearly preferred answer that is missing from the list of possible answers to the question.	What is your current employment status? ✔ Full-time employee ✔ Part-time employee	What is your current employment status? ✔ Full-time employee ✔ Part-time employee ✔ Self-employed
Avoid questions that include pre-sumptions and can cause bias	What was your motivation to select the specific educational institution? ✔ High quality of the studies ✔ Good reputation ✔ It is offering many interesting side options for me (sport, culture, etc.)	What was your motivation to select the specific educational institution? ✔ High quality of the studies ✔ Reputation ✔ It is offering many interesting side options for me (sport, culture, etc.) ✔ Low cost ✔ Distance from home ✔ Parents/family/friends advice

Table 5. Source: Adapted from McNamara, 2005 and Choi et al., 2004



The structure of the questionnaire and the order of questions is another point of concern. The educational institution should find the right balance for the number of questions: not too few, to be able to collect the necessary data, but not too many to dissuade potential respondents from responding.

The introduction to the questionnaire should include a brief explanation of the purpose of the questionnaire and conditions of confidentiality and use of personal data e.g. who will have access to the information, whether the plan is to attempt to keep their answers private and only accessed by the institute and/or someone who will gather the answers.

If the survey involves different thematic areas (e.g. employment, quality of studies), the questions should be grouped accordingly in sections. One section is devoted to demographic data that should include only the necessary personal information for the analysis of the results. Open questions can complement the closed questions, to get comments and insights from the respondents. The questionnaire should also include an ending paragraph, with information about the use of results and a “thank you” message.

Once the questionnaire is ready to be deployed, it is strongly recommended to have it tested by a small sample of the respondents to make sure that the questions are relevant, understandable and they capture the required information. The testing of the survey questionnaire is an important step, as once the survey is running, there is no possibility to make corrections in the questionnaire.

Run the tracking survey

1) Sampling

Many sampling techniques exist but can be grouped into two basic categories of probabilistic or non-probabilistic sampling. The difference is whether the sample selection is based on randomization (each element has an equal chance to be picked up and become a part of the sample). If the government has access to information from national registers and employees and the unemployed, it is only natural that it uses a method of a comprehensive survey, using data on all persons. If it is additional information and has a panel (list of information), random sampling can be used.

However, in order to achieve representativeness of the survey, it is necessary to meet two basic assumptions - the size of the sample and structural properties.

If random sampling is impossible (frame list of respondents is not available), quota sampling is a non-probability alternative to random sampling. The sampling design starts with characterizing the desired features of the sample beforehand and assigns a quota (number of respondents) to each subset of the population. For example, if the population of all graduates consists of 56% female and 44% male, the sample should reflect given percentages to keep the representativeness. The same approach as in the case of gender is then applied to other population parameters, such as year of study completion, the field of education, etc.

A table will be created containing predetermined numbers of respondents (quotas) with the required characteristics and gradually addressing the respondents in order to achieve the required structure of respondents, allowing the possibility of generalization of the survey results to the whole population. Respondents are selected until exact given proportions of data is obtained in different categories. In addition to the required structure, representativeness includes the task of establishing a minimum sample size. The quota size should be representative of the corresponding

Few essential terms:

The population is a basic set of elements, in our case all students or all graduates. The number of elements in a population is the size of the population. Sample, a subset of the population, is most commonly used in surveying. The sampling process is called sampling. The number of elements in a sample is the sample size.

subgroup in the population. In the following case, we chose the approach by determining the percentage (25%) of each subgroup in the population, considering two parameters of sex and years after study completion.

Another option is to set a minimum number of respondents in each of the subgroups; 30 to make generalizations e.g. about a group of males 4-7 years after graduation.

Sex / years after study	0-3	4-7	8-11	12-15	15+	Total
M: 44%	28	31	29	34	96	218
F: 56%	35	40	37	43	122	277
25% of total	62	71	66	78	218	495
Total graduates	250	285	265	310	871	1981

Table 6. TUKE own description

Quota sampling is not the only approach to obtaining a suitable research sample. Usually the educational institutions have the addresses of most graduates. It is possible to approach all available graduates in the list and try to get a sufficient number of answers, for example 30%. The rate of response can be very diverse, and the number of responses may not be satisfactory. In such a situation, the respondents can be repeatedly addressed. Eventually, email correspondence with a telephone address can even be combined, or graduates can be contacted by a related person, etc.

Additionally, elements of snowball sampling can be added if asking willing respondents to disseminate and support the survey by addressing other classmates.

2) Set up an online survey

It is strongly recommended to use an online survey instead of a paper-based survey, as the target population is graduates that are difficult to approach in person. Besides, the online survey has gradually replaced the traditional approach of handing out questionnaires, it is easily accessible through different digital devices and it is welcomed by more and more people.

There are different tools that an educational institution can use for running an online survey. There are simple free-to-use survey tools that can be used even by non-technical experts (e.g. Google form, Survey Monkey, etc) and more advanced tools (e.g. Limesurvey) that provide more technical capabilities and require some technical skills to develop and run. European Commission has also provided the tool EUsurvey that is simple and easy to use and can administer surveys in many languages.

The decision of the online tool to use depends on several factors, presented below:

- ✔ The size and complexity of the questionnaire. For big and complex questionnaires, with many branches and conditional questions, there is a need for a more advanced tool;
- ✔ The size of the population. For large numbers of recipients, there is a need for a tool with the capacity to administrate responses, send reminders and keep track of the whole process;
- ✔ The frequency of the survey. For regular surveys, there is a need for a tool with the capacity to store replies at different times and provide longitudinal analysis;
- ✔ Storage and privacy issues. If the institution wants to store data in its own server, it should opt for a tool that can be installed and administered in its own server;
- ✔ Finally, the requirement for graphical design of the survey may be important for institutions that want to have their own brand.

3) Administrate the survey

There are different ways to address the recipients through an online survey. The minimum requirement of every online survey tool is to have valid e-mail addresses of recipients. Normally, the institution keeps a record of contact details of students and graduates. The institution should comply with the General Data Protection Regulation (Regulation (EU) 2016/679 - GDPR): this means that the institution should keep a record with the explicit consent of its graduates that they agree to receive information and/or participate in surveys. As the GDPR regulation was introduced in 2016, it may be that the institution does not have the consent of graduates from before 2016. In that case, the institution should try to obtain the consent either by a web/social media campaign (asking graduates to register their contact data and agree to receive further information) or by contacting them directly and asking for their consent. Graduates who do not give their explicit consent must be removed from the contacts database.

The two most common ways to contact potential respondents are:

- 1 Send them an email with the link of the online survey. Although being the most simple one, it can cause distortion of the results as there is no possibility to make sure that each respondent has replied once or that people not belonging to the target population have responded to the survey.
- 2 Insert the email addresses of the recipients into the survey tool and send the invitation through the survey tool. This method minimises the risks of distortion of survey results.

In some cases, especially for large educational institutions or for institutions with different branches, the invitation to participate in the survey can be sent through social media or can be published in the institution's website. In that case, there is a strong requirement for data cleaning, as it may have a large number of invalid responses.

The survey will run for a period of time that is predefined, depending on the size of the population. The majority of the recipients reply the moment they receive the notification, or they do not reply at all. There may be a need for an extension of the survey, combined with sending a reminder to recipients.

After the end of the given period, it is recommended to end the survey i.e. restrict the possibility for further responses and start the analysis of the results.

4) Interviews

Interviews are particularly useful for collecting qualitative information, getting respondent's experiences or for pursuing in-depth information on a topic e.g. asking about how and why something happens. Interviews may also be a follow-up to certain questionnaire respondents made in order to investigate their responses further. Usually open-ended questions are asked during interviews.

There are different types of interviews that are used in qualitative research.

Overview of types of interviews

Type of interview	Characteristics and use
Unstructured interviews	No predetermined questions are asked in order to remain as open and adaptable as possible to the interviewee's nature and priorities. During the interview, the interviewer "goes with the flow".
Semi-structured	It is usually based on an interview guide sheet and is intended to ensure that the same general areas of information are collected from each interviewee. This provides more focus than the conversational approach, but still allows a degree of freedom and adaptability in getting information from the interviewee. It is useful when comparisons have to be made.
Structured interviews	It can be of two types. In standardised, open-ended interviews, the same open-ended questions are asked to all interviewees. This approach facilitates faster interviews that can be more easily analysed and compared. In closed, fixed response interviews all interviewees are asked the same questions and asked to choose answers from among the same set of options. This format is useful for those not practiced in interviewing.

Table 7. Source: Adapted from McNamara, 2005

The implementation of interviews as a research method requires the adoption of a protocol and the briefing or training of the researcher/interviewer. The interviewer should cultivate a friendly atmosphere with the respondent, engage the respondent in the interview, avoid expressing his/her own opinion and bias the respondent and record the response without judging. Physical conditions are also important, the interviewer should choose a place without distractions and noise.



RESOURCES

Staff

Several people need to be involved in the graduates' tracking survey, as follows:

Team leader: Overall responsible for the survey, responsible for the allocation and monitoring of tasks.

Administrator: Responsible for overall administration, collecting graduates contact information, sending out the invitations, follow up on invitations, provide support to participants and answer to their questions.

IT expert: Responsible for installing the online survey, administering the web-service, providing support to participants and extracting the survey results.

Analyst: Responsible for analysing the results and preparing the report.

The management of the educational institution should allocate the necessary resources and provide all the necessary support to the team, as well as give directions for the objectives of the survey and the indicators to be measured.

It is recommended that the staff that will undertake the setting, the management and the administration of the graduates' online tracking survey will attend a seminar to ensure that they all understand what they have to do, why and how this tracking survey is relevant for their own organisation. The seminar will contribute to the achievement of the specific objective of supporting VET providers to establish the tracking mechanism and integrate it into their quality assurance system. There is available a suggested seminar agenda as an appendix Nr.4 of this guide.

EVALUATION AND USE OF THE RESULTS

The data analysis process

Before the educational institution starts to collect the data, there should be a procedure for data analysis, production and use of the results, with allocated responsibilities. The careful design of the questionnaire and a rigid procedure for data collection will increase the validity and reliability of the collected data. The use of an online questionnaire will minimize the risk of bias caused by the researcher. Besides, the use of a professional online survey tool can minimize the risk of distortion of the survey. Nevertheless, a procedure for data analysis, including data cleaning, is needed before producing the tracking results.

The Data Analysis Process is simply working with data to find the pattern in it and to understand the information in it.



Data Analysis consists of four phases:

- 1 Cleaning of the collected data.**
- 2 Data Analysis** – the main work with the data finding correlations and creating Excel pivot table, which helps the educational institution to sort and filter the data. Excel can also be used for easy calculation of maximum, minimum and preparation of the graphical presentation of the results.
- 3 Data Interpretation** – when the data analysis has been finished, the results may be interpreted. The results can be presented just by explaining them in words, or better to present them in some kind of a chart. In this step there is a need to decide which will be the best presentation way for the particular data and for the people to present it to.
- 4 Data Visualization** – the most effective way of presenting survey results is graphically. These results need to be communicated to different stakeholders and it is always easier for people to understand when the results are being presented graphically (e.g. figure 2).

When data has been stored, analysed, and presented, the institution should continue to work with them – to make decisions based on this data, to use the data for continuous improvement process, development planning and benchmarking.

It is important to analyse the data on a regular basis and to keep all the analysed data in a presentable/comparable way, also visually, to be able to keep the track to see the tendencies throughout the years.

When a clear and simple data analysis process exists in an institution, better and more informed decisions can be made.

How well did your study and any extra-curricular activities you were involved in

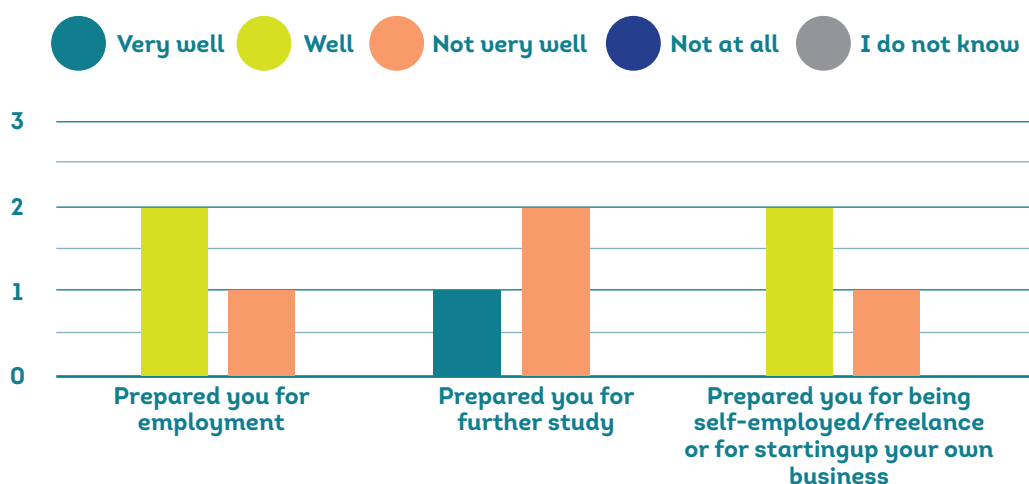


Figure 2. Example of a survey graph. Source: On Track



Outputs of the tracking of vet graduates

There are different ways one can use to communicate the results of the tracking process. The most common way is a written report including a comprehensive presentation and analysis of the tracking survey. Other products can be e.g. a presentation, an executive summary, policy recommendations, short thematic reports etc. The type of the output depends on the audience. A short presentation or an executive summary can be used to communicate tracking results to the management of the educational institution or to important stakeholders. Policy recommendations or published papers can contribute to the formulation of VET policies. The results of the tracking survey can also be used to formulate proposals for professional development of staff and trainers of the educational institution.

Below we present an indicative structure of a comprehensive report including presentation and analysis of the tracking results and the improvement of different aspects of the educational institution.

Introduction

I

Context

- Profile of the educational institution
- Rationale, motivation for tracking
- Demographic profile of respondents
- Background research of the key aspects of tracking survey (e.g. employment trends, unemployment etc)

Results

- Presentation of the tracking results followed by a discussion

Recommendations

- Identification of areas that require improvement
- Recommendation for concrete measures to be taken
- Policy recommendations

Conclusions

- Summary of main findings
- Recommendations for future work
- Feedback on the tracking methodology

Annexes

- Tracking methodology (description of the methodology used, questionnaire and/ or interviews, presentation of the survey tools)

Feed information from tracking system into decision making systems

The strategic targets have been set, important measures have been chosen, and the data have been collected and analysed. In the end, the data will support the institution with better informed decision making.

The ideas and information needed by management to make decisions for improvement come from various sources, such as a student feedback, graduate tracking/feedback, other stakeholders' feedback, self-assessment process, benchmarking, conferences, meetings, workshops, letter box, intranet, process review, audit, measurement of processes, etc.

Before the data presentation and decision making, there are some questions one should keep in mind:

- 1 Where is the data coming from? – incorrect data or useless data are worse, than no data at all
- 2 How was the data analysed?
- 3 Is there anything missing? – sometimes there is some important information that is missing to take the right decision
- 4 How can the institution use the data?
- 5 Is the person who is making the decision being objective when looking at the data? – studies show that when one thinks there is some problem, then he/she is looking at the data already knowing that “the problem” is there and not looking at the data objectively.

Steps in the decision-making process:

- 1 Summarizing different alternatives/solutions - using different methods one can get not only the suggestions for improvements but also directly other options for solving the same issue or prepare the alternative/solutions from the suggestions.
- 2 Evaluating the other options - understand what the differences are, similarities, costs, how appropriate are they for the strategy, for the culture of an institution, what are possible risks and last but not least - what are the weaknesses of each solution.
- 3 Presenting the alternatives - usual way of presenting the data and alternatives is at the regular Management (review) meeting or Strategy meeting. At the meeting there should be presented only important data. This will improve the decision-making process.
- 4 Decision-making - selecting the most suitable alternative which will support and help to develop the organization in the right direction.
- 5 Implementing and monitoring - converting the decision into a plan, allocating resources, and executing it.



Use of graduate tracking results in institution strategy planning and improvement planning

There are two main possibilities for an institution to use the results of graduate tracking:

- 1** As a supporting information for updating the institutions' strategy and long-term plans, for example changes in study programmes.
- 2** As improvement suggestions which are being transformed to action plans.

How to plan the improvement steps?

- ✔ At the beginning it is needed to prioritize the improvement suggestions – one possible way is to choose the improvements with the lowest expenditures but the highest consequences.
- ✔ Preparation of the action plan for every improvement suggestion – determining the responsibilities, due date, budget, etc

Generally, when the decision has been made and the plan is being realized, one should inform all people involved about the details and explain why this improvement suggestion was being realized. It is important to inform the people who suggested the different improvements suggestions or even solution alternatives why their suggestion will be/not be realized. This step has a significant role in peoples' motivation to participate in the process also next time. The basis in all the process is an open and clear communication environment.

Feed the results to the QA system of the VET provider

Quality assurance systems are primarily aimed at improving the quality of education, but one should not forget the part of creating the necessary links between vocational schools and the labour market. The main question is whether education programmes are well aligned with future needs in the labour market. The way to monitor compliance is conceivable by involving experts from the main employers of educational institutions' graduates, mostly in regular assessment of study programmes and their organisation. The quality assurance system should keep in mind the collection of information about the success of graduates in the labour market. The model of linking VET to the world of work would not be complete without tracking, with well predefined methods, how to evaluate and incorporate results of tracking graduates into the organisation of study programmes. Therefore, the following chapter deals with ways to include tracking methodology in quality assurance systems of VET institutions.



Chapter 3

**Integration of the VET
graduate tracking
system into the
organisation's quality
assurance system**



Chapter 3



Integration of the VET graduate tracking system into the organisation's quality assurance system

Every educational institution has its own quality management/assurance system. Institutions need to use an appropriate management framework and it does not matter the sector they work in or the size of the institution. There are different quality management frameworks and tools being used, as different ISO standards or some of the holistic approaches as EFQM Excellence Model, Common Assessment framework, etc. It is highly advisable for educational institutions to use some of these approaches such as students' data gathering and analysis – present students and graduates, who have started their work career or continue their studies elsewhere.

For VET institutions, there is a specific initiative: "EQAVET" (European Quality Assurance in Vocational Education and Training). EQAVET has been designed to ensure the vocational education and training (VET) quality assurance international credibility to help people who want to continue education and training or to use their qualifications abroad. EQAVET is based on a holistic approach to quality management.

Usually, in the institution, there is one document describing institutional quality policy, main processes and responsibilities (quality manual, handbook, guide or similar) which guides design, implementation and monitoring of the quality management system and helps communicating the quality policy and processes to staff, learners and external stakeholders.

This document usually covers the following topics:

- 1** Presentation of the institution.
- 2** Introduction into the application of the quality management system.
- 3** Definitions and abbreviations.
- 4** The quality management system: processes and documentation requirements.
- 5** Quality policy and goals.
- 6** Management and staff responsibilities in implementing the quality management system and the internal communication.
- 7** Resources management: planning and provision of resources, human resources, including their training, infrastructure, and work environment.
- 8** Management of main activities and processes (i.e. training services and other services to learner stakeholders): planning main activities, customer-related processes, design, and development, purchasing (public-procurement) procedures, implementation of main activities.
- 9** Measurement, analysis, and improvement.
- 10** Annexes: quality management processes scheme, statement of the quality policy, implementation, and monitoring plan.

It is advisable that the VET graduates tracking system that we propose in this guide is integrated into the quality assurance system of the VET institution as an integral process of quality management. Integration of the tracking system into the quality management system involves different steps that will be presented below. It is apparent that the establishment and use of the tracking system should fit the existing organizational structure and administration of the VET provider and be integrated with the other processes of the institution.

When implementing or updating the quality management system, the management of the institution is involved in the process and managers must be the leaders of the process. Managers should inform the institutions' staff about what is going to happen, why, what are the positive outcomes and define the objectives, needed resources, the division of the responsibilities, all of this while keeping in mind the coherence with the overall institution strategy and that the institution review is a process on a regular basis.

To have a holistic view of an institution, it is advisable to follow the four steps of the EQAVET cycle (Figure 3). EQAVET offers VET providers a straightforward way to monitor and improve the quality of their provision. It is based on the four-stage cycle of planning, implementation, evaluation, and review, which is at the heart of many other quality assurance approaches.

It is important to understand how the institution integrates the graduate tracking system in all four steps of the cycle. Institutions need to consider the importance of stakeholder involvement in every step of the quality cycle.

The quality cycle

of the European Quality Assurance Framework for Vocational Education and Training

1. Purpose and Plan

Set up clear, appropriate and measurable goals and objectives in terms of policies, procedures, tasks and human resources.

4. Review

Develop procedures in order to achieve the targeted outcomes and/or new objectives: after processing feedback, key stakeholders conduct discussion and analysis in order to devise procedures for change.



2. Implementation

Establish procedures to ensure the achievement of goals and objectives (e.g. development of partnerships, involvement of stakeholders, allocation of resources, and organisational or operational procedures.)

3. Assessment and Evaluation

Design mechanism for the evaluation of achievements and outcomes by collecting and processing data in order to make informed assessment

Figure 3: EQAVET Quality circle.

¹ EFQM Excellence Model. (2013). European foundation for Quality management. November 1, 2019. 2019. Retrieved May 5, 2020 [Online] Available at: <https://www.efqm.org/>

THE TRACKING OF GRADUATES IN THE FOUR STEPS OF THE EQAVET CYCLE

1) Planning

In the first step the institution needs to plan all the activities. It needs to decide on several topics:

- 1 The objective and targets.
- 2 The indicators.
- 3 The regularity of the graduate tracking process.
- 4 What will be included (segmentation).
- 5 What resources are needed.
- 6 What methodology the institution will choose – survey, interviews, focus groups.
- 7 How it will use the results.

There always needs to be a reflected vision, mission, and strategy of the institution. Here the institution is setting aims and objectives and one needs to take key stakeholders' point of view into account and involve stakeholders on a regular basis. It is very important to set the targets before the implementation phase, so the institution has the starting point when evaluating the results. It is suggested first to understand who the stakeholders of the institution are and to prioritize them (students, graduates, staff, partners, society, etc.). For prioritizing it is advisable to use the "Power interest grid", where one can compare the stakeholder "power" – how much power this stakeholder has over the institution and "interest" – how interested is the stakeholder in the institution (see figure Nr. 4)

Power/Interest Grid

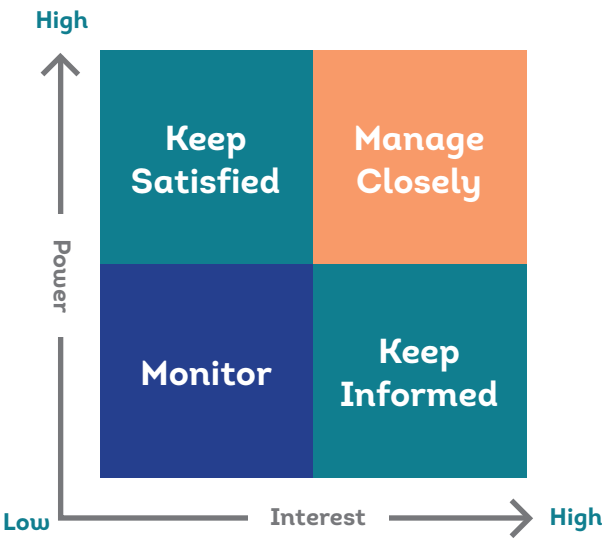


Figure 4: Interest Grid. Eurofortis own description



Aligning the Tracking system with Educational Institution strategy

Suppose an educational institution has a long-term plan that includes specific goals for approximately 5 years ahead. If it does not, it needs to define and specify its mission, objectives, and tasks in the form of a long-term plan for a period of four to six years. The second document should be an annual report containing statistics on key performance indicators in education and graduate employment. These two documents define the self-evaluation framework for each educational institution. The two documents should be clearly interrelated; the annual report serves to monitor the continued fulfilment of the educational institutions' strategic objectives set out in the long-term plan. The third very important element is the evaluation of the recording data needed for tracking. The educational institution must have a database of data not only according to the requirements of the annual outputs for the founder, but also according to its own plans and interests. The second part must extend to study reports after study, and this requires rethinking the structure of the database in such a way that the tracking data can be readily inserted and evaluated quickly.

Description of the practice of preparing/adjusting the long-term plan and annual report and upgrading administrative data and system:

1 If there is no or only informal long-term plan, weak level of strategic planning and data recording: educational institutions have to develop a comprehensive and realistic long-term plan and to create a new annual report structure so that the results of tracking of the graduates, comparable with successive years, are published in a separate chapter.

2 If there is well-developed strategic planning and data recording practice followed by defining a tracking system element for example as follows:

- ✓ Define the indicators of interest and corresponding data to be gathered,

- ✔ Select the survey methods,
- ✔ Design the sampling,
- ✔ Collect and revise the administrative contacts' information of graduates,
- ✔ Evaluate and make use of the results for reporting and strategic planning.

For planning the institution can use for example an Integrated Action Plan (IAP). It is a policy instrument that is being usually used as a concrete response to a policy challenge. There is no existing template: each IAP is individual and special; it considers local context, topic, and coverage.

The main parts of an Integrated Action Plan are:

- 1 City environment and defining the problem or the policy challenge.
- 2 Focus and objectives setting.
- 3 Planning of specific actions.
- 4 Budget planning.
- 5 Delivery framework.
- 6 Process designing.
- 7 Analysis of the potential risks.

2) Implementation

In this step, the institution should implement the plans in compliance with its strategy, mission, and vision. The institution is performing different graduates tracking activities according to the plan – developing the tracking survey, setting up the survey, running the survey, organizing the interviews, and administrating the data.

Management needs to be convinced that:

- ✔ Relevant partners have been chosen for cooperation;
- ✔ The aim is to improve the quality of the service provided and compliance with the market.
- ✔ Needed resources are in place for realization of the planned actions;
- ✔ Staff is fulfilling their tasks according to plan – team leader (is following the overall process and responsible for it), administrator, IT expert, Analyst, and other staff members;
- ✔ Staff is participating in trainings on a regular basis following the plan.

3) Evaluation (internal and external)

For every educational institution it is important to evaluate its activities and results, and afterwards to continue with improvement planning. There are two main directions – improvements of the institution system itself and study programs improvements.

The institution needs to choose the methodology and tools for evaluation that fits its needs before the process of tracking even starts. There are two types of evaluation – quantitative and qualitative. Quantitative measurements help to understand – “how many”, “how big”, “how much” etc. Qualitative evaluation measures, for example, awareness, satisfaction and attitude.

When the process is finished and the data has been analysed, the institution has a valuable resource to work with for further development. Graduate tracking/feedback is important for an institution as it significantly helps to understand the labour market and to better prepare the students for the working life. The results from graduate tracking can lead to changes and updates in the educational institution study programme offer or its strategy.

Institutions shall compare and evaluate the data on a regular basis (usually every year) and “store” it in a clear and comparable way to see the tendencies. It is advisable that institutions set targets every year (depends on measurements regularity) for graduates’ satisfaction-related indicators or any other key indicator it measures and choose a benchmark to compare with and learn from. The benchmark institution in this case should be similar and in a similar environment to the institution itself. For key indicators it is always helpful to present the yearly comparison in a graph, where one can see the tendencies from year to year (to see the tendencies, the institution needs to have the data from at least three periods). This way it is possible to have a holistic picture of the key results from the graduate tracking process and to evaluate them, to understand if the situation is improving or not and it is a supportive tool for searching improvement possibilities. These data can be later easily used in an institution internal review/self-assessment.

Developing a procedure for management review and action plan

During management review/self-assessment, the processes and results of an institution are being reviewed, including the student/graduate tracking results or staff satisfaction results. Institutions follow the national regulations concerning measurements and performing the regular self-assessment but they can decide also to perform the self-assessment by a different model on a voluntary basis for their development (EFQM Model, CAF Model, EQAVET Quality cycle, etc.).

The self-assessment is a **supportive tool for management and employees which can help understanding:**

- ✔ The work structure in the institution;
- ✔ The maturity and development level;
- ✔ The maturity and development level comparing to others;
- ✔ The necessary level of development;
- ✔ The needed steps to improve/change/develop;
- ✔ The most effective possible development starting point.

The Purpose of the self-assessment:

- ✔ It is a strategic tool which supports business planning, strategy development and performance improvement;
- ✔ It creates a holistic picture of the institution;
- ✔ It integrates all interested partners and serves as a base for communication and explanations;
- ✔ It encourages an understanding for the institution and creates a "common language";
- ✔ It is a structured fact-based method;
- ✔ It supports a systematic analysis of strengths and areas for improvements;
- ✔ It gives the chance to find possible improvement suggestions and create improvement projects.

The self-assessment process (figure 5) is very similar for all quality management tools and all steps are important.



Figure 5: Self-assessment steps. Eurofortis own description

- 1 To start with the self-assessment, one needs to get acceptance from all – the management team and internal stakeholders.
- 2 When planning the self-assessment, the institution needs to understand who will be involved as internal assessors, who will be informed, what is the regularity, the timeframe and what methods and tools will be used (CAF Model, EFQM Model, etc.). The timeframe for self-assessment should not be longer than 2 months, as in 2 months many changes can happen and the improvement plans may be concluded. The self-assessment needs to be incorporated as a regular process: the best is to perform it yearly or once in two years.
- 3 There can be created one team of internal assessors or more teams, depending on the size of the institution and other factors. In one team there should never be more than 6 people, as during the assessment there will be discussions and 6 is the maximum number for productive discussion during the self-assessment.
- 4 The plan is then communicated to all those involved and there is a small training organized for them in order to agree on the general understanding of quality, the highest possible quality (the institutions' aim), why the institution has designed the activities in the particular way and what will be the result of the self-assessment for the institution, for staff and for all other stakeholders.
- 5 Before carrying out the self-assessment, one needs to check what data from stakeholder surveys the institution has, including the data from graduates tracking surveys. If something important is missing, this information needs to be gathered before starting the self-assessment.
- 6 While carrying out the self-assessment, the team/teams are discussing and summarizing the evidence.
- 7 When the self-assessment is concluded, the work with the information from self-assessment continues and preparation and update of an action/ improvement plan and realizing it.

4) Review

At the end, the process is checked once again in order to assess whether the chosen approach was right, the indicators were appropriate and suitable for the institution's needs and whether the institution gathered the desired results. Students/ graduates and staff feedback is considered, appropriate actions are being carried out and the institution is adjusting the system, process, and measures. It is a never-ending process: It is called the continuous improvement process.

When the institution is performing a self-assessment regularly, it provides important information about the institution which can be and should be used for benchmarking. Benchmarking means not only comparing the results but learning from each other. The most important for the successful benchmarking is the chosen benchmarking methodology and benchmarking partners choice. If this is done right, it will lead to significant improvement in the processes, targets and help the institution to learn how to present the results better.

Chapter4

On Track methodology



Chapter 4



On Track methodology

Many educational institutions do not monitor the employability and employment of their graduates, or they only create ad hoc databases of the first steps after graduation, which are typically not sufficiently updated after losing contact. This is a pity, because if schools do not have a tracking system, they do not have information on graduate employment in the labour market. Then, they also lose the possibility of feedback from graduates and employers. The On Track methodology created in this project is precisely designed for this purpose in order to develop an effective tracking system and implement it in a school quality assurance system. Conducting the survey requires specific skills and the proposed On Track methodology provides guidance and a standardized procedure for obtaining reliable, relevant, ethical and useful data.

The On Track methodology created in this project is precisely designed for this purpose in order to develop an effective tracking system and implement it in school quality assurance system. Surveys among employers can be used primarily to determine their satisfaction with graduates, but significant employers or experts could be involved in the design and evaluation of existing study programmes and their subsequent innovations. This ensures an increase in the effectiveness of education in terms of graduate results, but also their admission to relevant job positions. Recently employed graduates are able to respond immediately and provide information on the usefulness as well as inadequacy of education for their work. In the On Track methodology, educational institutions have a comprehensive tool and know-how on how to carry out surveys to the greatest possible satisfaction and their long-term use in favour of improving the education and employability of students.

The On Track background approach is aimed at assessing the success of study programs; hence it is aimed at the opinions, satisfaction with the employment of graduates themselves in their jobs. The success of a given study programme can be assessed annually through follow-up tracing in order to collect individual and aggregated data on graduates' initial entry into employment, readiness for the pursuit of the occupation; but also on their views and experiences on the relevance of the programme they have

attended. As new employees, they have recent experience to be able to evaluate the curriculum, acquired knowledge, skills and competencies in relation to their work.

The **tracking system** is intended primarily for VET institutions themselves, not for Ministries of Education or Labour. The On Track approach in terms of the essential method is defined as the collection of data and information through surveys on students and/or on graduates; on their progress in education - knowledge skills and competencies acquired, but also on their perception of the effective use of their education to find quality work and further progress in the labour market. The tracking system is capable of measuring results based on various indicators, which can be used for further purposes. During tracking, new, primary data is generated which can be divided into qualitative (text) and quantitative (numerical) data. Each type of data requires specific methods and tools of analysis. In principle, the data obtained are concentrated in different tables and the methods of descriptive statistics are used. In the case of qualitative data, frequencies of responses are compared and displayed visually using bar charts or pie charts. Quantitative data provide greater analytical possibilities using means, variances, medians, quantiles, box plots, etc. More experienced analysts can also use the applied correlation methods to determine the dependencies between the variables.

Qualitative questions:

- ✔ Socio-biographical and socio-economic information;
- ✔ Study intensity;
- ✔ Study method;
- ✔ Qualification(s);
- ✔ Credit received;
- ✔ Field of study;
- ✔ Transition to employment or further education and training;
- ✔ Earnings;
- ✔ Type of contract;
- ✔ Employment status;
- ✔ Occupation;
- ✔ Professional status;
- ✔ Activity, geographical and/or sectoral mobility

Quantitative questions:

- ✔ Relevance of study to employment;
- ✔ Skills needed in the job/ skills acquired during studies;
- ✔ Participation in volunteering or civic engagement activities;
- ✔ Career progression and satisfaction;
- ✔ Perceptions of the quality and relevance of their education and training experience.

From the questionnaire survey, nine different indicators can be identified. With the collected qualitative and quantitative data, the percentage of graduates can be determined and analysed in regard of those nine indicators:

- 1** Employment status
- 2** Status in further education and training
- 3** Interlinkage between the received education and current employment
- 4** Simplicity or difficulty to find a job
- 5** Leadership position
- 6** First salary after graduation
- 7** Current salary
- 8** Interlinkage between a further education track and received education
- 9** Probability of obtaining the same education again

A time survey is conducted between at least two-time points employing aggregated or individual data. Creating a knowledge database structure and designing system tools for tracking graduate applications is a rather challenging task. Similarly, statistical data collection reflects the lack of experience in educational institutions with defining the objectives of the surveys, the appropriate methods of collecting data and to determine sample size and finally the creation of motivating questions and enabling appropriate methods of data analysis. Therefore, the methodology focuses on creating a suitable model, but also on creating a sequence of steps prepared for the easiest possible implementation at VET institutions. A precise definition of the purpose for which the system and the collected data are to be used is key for setting its parameters and especially the usability of the outputs.

ON TRACK METHODOLOGICAL APPROACH

The methodological approach is focused on the following main points:

Motivation and challenges for educational institutions to carry out tracking: Tracking carried out mainly administratively leads to descriptive statistics. Every VET institution needs to clarify the motivation, the main goals, what information is missing for continuous improvement and how the results will be used. That is why there is such a strong emphasis on the On Track approach for a discussion at the beginning. Without clarifying the motivation and rethinking the objectives, the survey will end up with little success and with limited use.

Context and purpose: The tracking of graduates is not an end in itself, but exists in the context of the long-term mission, annual reports and the quality assurance system. It is possible that one of the documents or systems is not available in educational institutions. In this case, it is necessary to start creating basic documents or tracking systems in order to incorporate them into the existing strategic and evaluation documents. Once there is a well-developed strategic planning in the educational institution, tracking system elements are going to form its vital part.

Skeleton of the tracking system: After setting goals and decisions, the scope of the survey comes to the stage of creating a basic survey design. The most important step is to define the indicators of interest and corresponding data to be gathered; to select the survey methods; to design the sampling; to collect and revise the administrative contacts information of graduates; to evaluate and make use of the results for reporting and strategic planning.

Establishing procedures for tracking surveys: This part already deals with the practical implementation of the survey. It is appropriate to ask fundamental questions regarding the institution and implementation of the survey: What is to be done and what outcomes are desirable; Who is the team leader, administrator, analyst. When the preparation starts and which is the ideal period of the year to conduct the survey. How the survey will be conducted?

Training: As tracking is new to the educational institution, seminar and workshop contributing to the achievement of the specific objectives have to be held to establish the tracking mechanism and integrate it into their quality assurance system. The proposal for a seminar for staff involved in the establishment of a tracking system is in Appendix 4.

Description of indicators and administrative data: All data is automatically entered into the prepared, structured database. This requires skilled work prior to tracking work. Even before the start of the survey, it is necessary to define indicators of interest (job description, position, the required level of education, length of necessary training, level of use of acquired knowledge, job satisfaction, etc.), but also the necessary administrative data on respondents.

Questionnaires and sampling: The content of the survey should not be limited to employment and employability, employment rate and wage level. It should rather assess the graduate's entry into practice as a complex and multidimensional process. The On Track tool contains basic recommended questionnaires. At the same time, it intends to take into account the context to serve other alternative purposes and therefore draws attention to other topics that the educational institution may choose for the survey. To achieve representativeness of the survey, two basic assumptions must be met - the size of the sample and structural properties. Quota sampling is recommended to achieve representative results. However, also some other methods of data collection are recommended - interviews, focus groups, etc.

Run the tracking survey: There are a few essential points to check that are listed in the On Track tool before starting the survey. The success of the work and the results of the surveys, as well as their usability, depend on this. Once the survey questions have been distributed, it is no longer possible to go back and correct the errors.

Integration of the tracking system with quality assurance system: Tracking system is not a one-time activity. It is a full-fledged and important activity that must be integrated into the quality assurance system.

How to use On Track model surveys

To provide technical guidance to VET providers that want to design and establish a VET graduates tracking system, the On Track project has developed a technical manual based on the On Track methodology. The technical manual complements the Methodological guide and deals only with the technical aspects on how to adapt the model surveys and use the model surveys. Tracking Model Surveys are in three levels, seven languages and 2 different tools (Google form & Limesurvey). Both forms are recommended for On Track surveys, although there are several differences between them. Google Forms is free, easy to self-learn, but customer support is not available in case of problems, only discussions and informal instructional videos. The output of the survey is possible in Excel and then the tools of creating charts in this software can be used. Limesurvey is primarily intended for marketing research, has better and more friendly functionality, own data analysis tools and supports audio, images and video; but requires a monthly fee.

The technical manual, intellectual outputs and contact information regarding the use of survey tools can be found on the project website at <http://www.ontrack-project.eu/en/>



Conclusions



Conclusions



There is a constant need of developing a better VET system and improving the vocational education prestige in all European countries. Graduate tracking is a very important information resource which can help with both tasks and the number of educational institutions that understand this fact is growing every day.

From an individual institution point of view, graduates' satisfaction and results have a significant impact on institution results and its future. It is important to know as much as possible not only about present students, but also about graduates, as only this way one can achieve a comprehensive overview and a holistic picture of the institution and its possible ways for development. Whether it is a general institution development or a program refinement when using this information, the VET institution is building a database of valuable knowledge for present and future activities and developments. It helps the educational institutions to anticipate the possible future professions and be ready to offer such study programmes to students.

Generally, graduate tracking helps to understand which qualifications and professions are needed on the labour market and whether the offered study programme is in coherence with the needs of the labour market in each country individually or on the European level. All this information can help to build a better educational system and it serves as a support for the whole European economy. When an educational institution has the information about its graduates and is taking measures to realize all the needed changes to programmes and institution itself, it brings to the labour market much better prepared professionals, who can then build a better future for the whole economy.



Appendix 1

Case studies



BULGARIA

According to the European survey “Mapping VET graduate tracking measures in EU Member States” conducted by the DG Employment, Social Affairs and Inclusion (DG EMPL) in 2017, Bulgaria is one of countries which “do not currently have any VET graduate tracking measure”.

Pilot implementation of the tracking tools in Bulgaria

The Center for Vocational Training (CVT) that took part in On Track piloting is one of the largest centres for adult training in Bulgaria. However, so far there is no established practice for tracking of realisation of VET graduates. Before the pilot study, the centre identified as good practice the active cooperation with the labour offices, from which information is obtained whether the persons trained by them are employed or continue to be registered as unemployed. Unfortunately, this is only possible for trainings funded by national qualification, retraining and employment programs

Experience with the On Track system

The main challenges to the pilot testing process that CVT had to deal with were related to:

- ✔ The lack of emails of most people
- ✔ Incorrectly submitted e-mail addresses for which were received messages about non-existent or undelivered mail
- ✔ Extremely low activity of the persons to whom the surveys were addressed

During the period of sending the surveys, a large number of calls were received from people who do not understand why this survey is conducting. Part of its trainings were organized under national programs and are aimed at the unemployed. One of the concerns of the trainees who called was whether they would have to return the money for the completed training if they did not find a job.

Processing the data, we also find that most of the interviewed trained persons are unemployed. Probably the current pandemic with the coronavirus situation is also part of the reason, but for us, this statistic is very unfavourable. Most of the courses that individuals have completed are in the field of tourism and services, wherein the current 2020 the contraction of activity is palpable.

Results and conclusions

- 1 If we decide to apply the implementation tracking mechanism in the long run, we need to build a comprehensive approach. It is important to have up-to-date and valid data.
- 2 It is necessary to appoint a responsible expert to engage in the activity - collecting, verifying and storing personal data of trainees, informing them about the upcoming study when enrolling in the course and reminding them at the end of the training.
- 3 It is important to plan exactly the time and target group for the survey in order to get the maximum result

The opportunity we received being included in the implementation of the OnTrak project provoked us to consider in terms of content our strategy for quality assurance. We realized that as a training provider we have another key role - to ensure the transition to employment and to commit to measuring the career success of those who have completed our courses.



According to the European survey “Mapping VET graduate tracking measures in EU Member States” conducted by the DG Employment, Social Affairs and Inclusion (DG EMPL) in 2017, Cyprus is one of the countries which “do not currently have any VET graduate tracking measure”.

Pilot implementation of the tracking tools in Intercollege

For the last decade, Intercollege has been focussing on its 5 main programs of Studies which are the Culinary Arts, Aesthetics, Mechanical Installations, Automotive engineering and Mechanical and Nautical Science. At present, Intercollege has approximately 300 students studying at three levels of studies (diploma, higher diploma and bachelor's). Intercollege did not have an official procedure for contacting graduates, however, as from 2018 and after the implementation of the GDPR regulation in 2016, it has started gathering this data in order to utilize it in monitoring and employability purposes as well as marketing purposes. The main aim though is currently focusing on the creation of an Alumni Community.

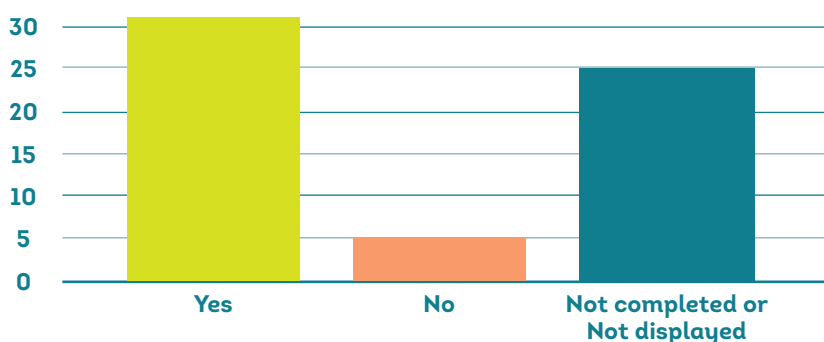
The Cyprus Agency of Quality Assurance and Accreditation in Higher Education (CYQAA), is aiming at upgrading the higher education institutions and their programs of study, therefore they have placed stricter procedures and are placing more visits to the institutions to verify this progress. As a result, Intercollege is reforming and readjusting its KPI's regarding graduates' tracking in order to fulfil the above aim, by acquiring their graduates' feedback.

Experience with the On Track system

Intercollege as a partner in the On Track project aimed at implementing the On Track tool and initiate the procedure of creating its alumni community and monitor the employability of its graduates.

Two employees of Intercollege participated in the training in Athens where they actively worked on adapting the questionnaire survey for EQF level 6-7. Initially, the problem which arose dealt with the obtaining of the graduates' consent to participate in the survey. Intercollege, as a private VET provider, has only gathered random data by its graduates only for statistical purposes, but as from 2018 and after the GDPR regulation's validation and establishment, Intercollege has started since then, to ask its students upon their registration, to provide their compliance in using their personal data not only for statistical purposes but for the alumni creation database which has come to appear as something essential.

It was not easy at all to contact our graduates, especially the ones for whom we had no GDPR compliance and the data kept of them often was outdated e.g. email addresses and phone numbers. The previous lack of GDPR compliance led us to create a front-page invitation for graduates that includes a paragraph regarding this issue. The graph below shows the initial results to this compliance request in Greek.



Our pilot run took part earlier this month (November 2020) in two phases with an outcome of around 730 graduates to be reached and only around 95 accounting as responses. We knew that the Greek-Cypriot mentality and behaviour towards answering questionnaires in surveys are not very helpful, therefore we tried to change that via personal contact and phone calls made as a reminder to kindly request again our graduates' contribution to this survey, still waiting for more replies.

Results and conclusions

It was undoubtedly a very time consuming and difficult procedure for the survey to be set according to our organisation's needs and demands, and that is why we have come to agree that IT experts should have been involved in such procedures.

The results so far are not that promising, but since we intend to implement the tool in our organisation's Internal Quality Assurance Committee's regulations (IQAC), all the methodology and experience gained by the Pilot run of the survey will be measured and better utilized for future purposes in relation to the alumni society (to be created) of Intercollege. Now that the GDPR issues have been resolved, it is strongly believed that the tracking of our graduates will be a much easier procedure that will help Intercollege not only keep in touch and/or contact its graduates but also enrich its consulting/counselling services and have an immediate relation with the labour market as one of its main goals





According to the European survey „Mapping VET graduate tracking measures in EU Member States“ conducted by the DG Employment, Social Affairs and Inclusion (DG EMPL) in 2017, Greece is one of countries which „do not currently have any VET graduate tracking measure“. Graduate tracking in Greece is not required and it is not a common practice, neither at the national level nor at the level of the individual vocational education training centre.

Pilot implementation of the tracking tools in IEK DELTA

IEK DELTA has been established in 1971 and soon became the leader in Vocational Training in Greece, certified by the Greek Ministry of Education and the E.U. With 49 years of experience in private education, offering Post-Secondary Training Programs of EFQ level 5. Its goal is to ensure the quality of the provided knowledge and high levels of professional rehabilitation and employment.



IEK DELTA operates in a 4500m² building of high-quality facilities, located in the heart of Athens. New technology equipment, specialized labs, project rooms and thematic classrooms cover most of the functional space in the buildings. Since June 2018, IEK DELTA has established a new campus in West Attica, following the same design and quality pattern.

IEK DELTA has developed a unique learning environment, with 53 Specialties divided in 5 Schools:

- ✔ School of Engineering & Information Technology
- ✔ School of Tourism & Culinary Arts
- ✔ School of Beauty & Health
- ✔ School of Arts & Education
- ✔ School of Business & Communication

Experience with the tracking system

IEK DELTA formed a team involving the General Director Mr Konstantinos Kiouisis and staff from the marketing department under the leadership of the marketing director Mrs Sofia Spilioti.

As this was the first time that IEK DELTA did a tracking survey, there was a lot of effort spent on establishing a contact database of the previous graduates. Information from different databases was used, mainly databases from enrolments and from the marketing department. The different databases had to get integrated and cleared, as they included obsolete values, duplicates, etc. The development of the e-mail contacts databases was a big task, the prerequisite for the sending out of the survey.

The tool that IEK DELTA selected was the google form survey level 4-5. The selection of the google form, was because it is simpler and easier to use.

IEK DELTA adapted the questionnaire to their needs. In this process, different persons participated including people from the management, marketing and teachers. The final questionnaire is composed of two parts, one standard part and a second optional part.

An invitation e-mail was developed by the marketing department. Attention was paid to provide a motivation to our graduates to fill in the survey.

Results and conclusions

IEK DELTA implemented two rounds of the tracking survey with 1373 and 1264 recipients respectively.

The results from the two rounds of the online survey were not satisfactory. In the first round, only 29% of the recipients opened the e-mail, a 5% clicked in the survey link and a small percentage of 2.1% actually filled in the survey. The majority of the recipients (71%) did not open the e-mail. The reasons for the low response can be that the graduates may have changed e-mail address, or the e-mails may have gone to the spam folder. A big challenge remains to maintain a database of valid e-mail addresses and make sure that our recipients will actually receive the intended information.

The main obstacles that IEK DELTA encountered are:

- ✔ Difficulty to create a database of e-mail contacts for the first time. As this was accomplished, the centre now has a valid database that can be used in the future.
- ✔ The issue of GDPR and the protection of the personal information of the graduates. In the mail that IEK DELTA sent them, there was a provision to unsubscribe from the mailing list. For current and future students, we make sure to have their written consensus to participate in graduates networks and receive further e-mails from IEK DELTA.

As a result from the first two rounds, IEK DELTA has taken the following decisions and actions:

- ✔ To reduce the size of the questionnaire and focus on a fewer and more important indicators of employment.
- ✔ To employ other means of reaching our graduates (telephone interviews)
- ✔ To run a 3rd round of the tracking survey through telephone interviews to all graduates (1300+ recipients). For this purpose, IEK DELTA has employed a researcher that will be devoted to this task.



According to the European survey „Mapping VET graduate tracking measures in EU Member States“ conducted by the DG Employment, Social Affairs and Inclusion (DG EMPL) in 2017, Latvia is one of the countries which „do not currently have any VET graduate tracking measure“. But there are some regulations regarding an annual self-evaluation report of a vocational education institution or an educational institution that implements a vocational education program.

Pilot implementation of the tracking tools in Latvia

The College which took part in On Track piloting is a higher education institution which on the means of the national budget offers two first-level higher professional education study programs – Nursing and Medicine, as well as a vocational education program Nursing.

The aim of the of the College is to promote high-quality professional education for nurses and doctor-assistants and possible further education in connection with requirements of the labour market using appropriately existing intellectual, technical material and financial resources, developing closer cooperation among lecturers, enabling mutual integration of study subjects and collaboration with colleagues abroad and modernize interaction between lecturers and students in the process of teaching and learning.

Experience with the On Track system

In accordance with the requirements of the legislation every year, College conducts a graduate survey. The main emphasis is on interviewing new graduates and focuses on a specific feedback topic defined by legislation because these data are necessary for the self-assessment report.

Many obstacles are being faced throughout the graduate tracking and On Track project piloting was no exception. Students are out of reach after graduating from college, they quite often change phone numbers and e-mail addresses. As well, as graduates are not particularly responsive to such surveys. While conducting the

graduate survey many restrictions of individual/personal data protection laws need to be taken into account, time and effort are required to overcome technical and legal hurdles to enable existing data to be used.

In order to obtain data from as many graduates as possible, the college has been interviewing the prospective graduates during their defence of the qualification paper (including they are asked to update their contact information (e-mail address, telephone) if it has changed during their studies). Until 2019/2020, for the spring semester of the academic year, the questionnaires of future graduates at the College were designed and issued for completion in paper format, thus ensuring a larger number of respondents. Starting from 2019/2020, year of study, due to Covid-19 limitations, the survey was conducted remotely on Google forms, sending prospective graduates a link to the survey to their private emails, the addresses of which students provided as their means of communication during the study process, therefore the College for On Track piloting used the contacts provided by the graduates and to whom the invitation was sent to participate in the survey.

Results and conclusions

Compared to the previous questionnaire that College was using, On Track survey tools offer slightly wider options for graduate tracking, therefore College was able to get more data for analysis.

For the piloting, College chose to use Google forms. The advantage of using them is that you can get a visualized overview of the survey results immediately, while still having to process the textual information. The obtained information from On Track piloting provides an opportunity to improve the study process and study quality, as well as to change the study content in a direction more appropriate to the needs of the labour market. It is also possible to find out whether the college graduates are ready / need to continue their studies at a higher qualification level, as well as to find out what percentage of graduates enter the profession (i.e. whether they meet the state's expectations for labour gain by funding these studies from the state budget).

Graduate tracking is not a one-time activity, thus On Track project tools and methodology can provide great support for VET institutions to establish or to improve already existing graduate tracking system and it serves as a tool to improve quality of VET provision.



There is no legal obligation to conduct VET or HEI graduate tracking in Slovakia.

Pilot implementation of the tracking tools in Technical University of Košice

The Technical University of Košice (TU Košice), Slovakia consists of nine faculties and provides education and research mainly in various engineering disciplines, but also in economics and the arts. At present, TU Košice has approximately 9,500 students studying at three levels of study (bachelor's, engineering and doctoral). TU Košice has been receiving feedback from students for a long time and tries to support closer relations with its graduates, but monitoring the employability of graduates is uncoordinated and one-off and takes place at the level of faculties. At present, the Slovak Accreditation Agency for Higher Education is striving to increase the quality of higher education institutions and has prepared new standards for universities. Universities are obliged to collect, analyse and use relevant information for effective management of the study programs and other activities. The key indicators of education also include the opinions of graduates and employers and the employment of graduates.



Experience with the On Track system

The Technical University, as On Track project Applicant, has decided to introduce On Track system for monitoring the employability of its graduates. Three employees of TU Košice participated in training in Athens (an employee of the study department of the Rector's Office, vice-dean for the education of one of the faculties and one of the On Track project experts), where they actively worked on adapting the questionnaire survey for EQF level 6-7. The first obstacle which they identified was obtaining consent to participate in the survey. All graduating students were con-

tacted with a request to obtain a private email address, to which it will be possible to send them a questionnaire after graduation. All students of TU Košice have school email addresses, which, however, are only valid for a limited period after graduation. Obtaining new email addresses as well as consent was key to conducting the survey. Subsequently, the On Track survey was conducted in September to November 2020 on a sample of 620 graduates from 2020 and 3,500 graduates from previous years. Three times during the 6 weeks of the survey, a reminder has been sent to students with a request to fill out a questionnaire, which significantly increased the return rate.

Results and conclusions

The Technical University of Košice understands the importance of increasing the quality of education by monitoring the employability of its graduates. The key moment for success was to gain the support of the Vice-Rector for Education, who subsequently promoted the idea of tracking at the level of all nine faculties. In addition, students of the Faculty of Electrical Engineering and Informatics within the team project “Living IT” were given the task of how to prepare the survey for the coming years in the way that it will create only a very low burden for administrators and the highest possible return rate will be ensured. A new IT environment for surveys and student databases was created, and the issue of obtaining addresses from new graduates via the GDPR form was resolved. The questionnaire modifications, possibilities of database filtering as well as evaluation of questionnaires at the level of faculties were figured out. It can be unequivocally stated that the On Track project took the first significant step in graduates tracking and the subsequent steps taken by the management of TU Košice ensured the sustainability of On Track methodology and capacity building in the field of the quality of education support.



There is no legal obligations in regard to VET graduate tracking in Spain, only some regulation in regard to sharing information.

Pilot implementation of the tracking tools in Politeknika Ikastegia Txorierri

Politeknika Ikastegia Txorierri (www.txorierri.net) is a High School for Science and Technology and Vocational Education and Training (both EQF level 4 and 5) in the Basque Region. Each year the school provides education for over 400 full-time students and 1000+ adult part-time learners with a staff of 45 people.

Politeknika Txorierri is a member of Ikastolen Elkartea, a network of 91 schools that provide from primary to post-secondary education in the Basque language, 52 of these schools are located in the Basque Country and the others in the South of France. We also belong to the HETEL network of 26 subsidized VET schools in the Basque Region (www.hetel.org). Most of the associated schools, like PIT, also provide school education secondary and upper secondary level. The network shares innovation practices, internationalization and mobility organization and technical projects. Anabel Menica (staff member at Politeknika Txorierri) is the coordinator of Erasmus+ mobilities for HETEL.

Politeknika Txorierri has worked very closely with the VET centers in the HETEL networks raising awareness of the culture of Tracking former graduates. Politeknika Txorierri has embedded the Tracking system to the quality culture but also HETEL has started gathering information on employment rates of the VET canters in the HETEL network.



Experience with the On Track system

We have decided to introduce On Track system for monitoring the employability of our graduates. Three employees of Politeknika Ikastegia Txorierrri participated in training in Athens and we have actively worked on adapting the questionnaire survey for our students. The first thing was to decide the questions we wanted to include in the questionnaires. We decided not to do many modifications for the first piloting since we wanted to pilot all questions to analyse all data we are able to collect.

At Politeknika Ikastegia we use a platform called Alexia in order to offer daily lessons, share educational material and keep in touch with former students. The students give us their consent to send them emails also once they are not students from our center. Nevertheless, the first obstacle identified was reaching these students. The problem of using this platform is that students use an email account create for the school and it is not always their private email address, so once they leave our centre some students stop accessing this email account.

1st Pilot run

- ✔ From 355 former students in High Vocational Training (EQF 5) we got 55 answers. This is 15,5% of the students have answered the questionnaire.
- ✔ From 77 former students in Medium Vocational Training (EQF 3) we got 5 answers. This is a 6,5% of the students have answered the questionnaire.

2nd Pilot run

We have sent the questionnaire to former students that finalized in 2016 and 2017. Exactly 95 students of EQF Level 3 and 529 students of EQF level 5.

- ✔ From 529 former students in High Vocational Training (EQF 5) we got 55 answers. This is 10,4 of the students have answered the questionnaire.

From 95 former students in Medium Vocational Training (EQF 3) we got 2 answers. This is a 2,1% of the students have answered the questionnaire

Results and conclusions

The On Track survey was conducted in the months of September to November 2020. In the first run, we have sent the questionnaire twice. Once before summer and then once again in October. The response rate was lower than we expected so we have reached out by phone a couple of students to ask about the possible reason. We have reached out with 3 conclusions:

- ✔ The questionnaire is too long
- ✔ They don't access their email account since it is not their personal email address
- ✔ They don't see a direct benefit of completing the questionnaire

It is key to set clear goals before you start with tracking. What do you want to achieve? Which information do you want to gather? For example, we want to encourage women to study in our center. We offer technical degrees and we have very few women at our center and we want to encourage women to study with us. 92,9% of women that have studied at Txorierri have been able to find a job related to their studies. The information we found out it is very useful and can be used as a marketing tool

With the second run even if we made the questionnaire shorter, we received even less answers. This is due to the time that has passed since the students finalized their diploma. We have sent the questionnaire to their school's email address and apparently, they don't use this email anymore or they are not willing to answer the questionnaire. 4 years is too long, and they lose track of their email and also the interest or the contact with the school. It is also a very clear conclusion since it happened in both pilot runs that the response rate is lower with Medium Vocational Training than with High Vocational Training.

- ✔ Set clear goals before arranging questionnaire
- ✔ It can't be too long
- ✔ Short and easy questions
- ✔ Data needs to be filtered afterwards
- ✔ They don't access their school's email (Alexia). It is better to get GDPR of the personal emails when they are still at the VET center
- ✔ It is important to share some results with students so that they feel part of the center and they can see a direct benefit of completing the questionnaire.



Appendix 2

Institution checklist

Institution checklist



Institution checklist to check preparedness to tracking system establishment

- 1** Be committed to run and integrate the graduate tracking system into the educational institution's quality management.
- 2** Use the tracking system in the existing organizational structure and administration of the educational institution and integrate it with the other processes of the institution.
- 3** Prepare the plan, which should include what to measure, how to measure, responsibilities for measuring, data analysis, etc.
- 4** Choose the methodology and tools for evaluation, that fit the educational institution's needs before the process of tracking even starts.
- 5** Select the appropriate data collection method, the potential use of existing administrative data, information about the population and/or the sample,
- 6** Develop specific tools that will be used for tracking and finally the implementation of the survey and the analysis of the results.
- 7** Consider different stakeholders within the process of integrating the results of graduates tracking systems.
- 8** Set targets for all key results in line with the overall strategy of the educational institution.

- 9 Understand the reasons of observed trends and the impact these results will have on other performance indicators, perceptions and related outcomes.
- 10 Allocate the necessary resources and provide all the support needed to the team, as well as give directions.
- 11 Organize seminars for the participants to acquire the necessary competences to design, implement and use the tracking system, to establish the tracking mechanism and integrate it into the quality assurance system of your organisation or institutions.
- 12 Instruct staff about the importance of working in compliance with institutional quality assurance policy, define quality policy and objectives, regularly prepare and present staff with management reports, ensure resources necessary to provide quality services.
- 13 Run the survey. Handle all personal data resulting from the survey according to the General Data Protection Regulation (GDPR) - Regulation (EU) No 2016/679.
- 14 Actively engage staff into self-evaluation, work to achieve immediate decisions on improvements and action plan for corrective/preventive measures.
- 15 Discuss suggested improvements and ensure that they are supported by staff and stakeholders.
- 16 Segment results to understand the experience, needs and expectations of specific groups of interest.
- 17 Consider the results from graduate surveys at all institutional bodies and study programme working groups.

- 18 Use graduate tracking results in institution strategy planning and improvement planning.
- 19 Realize the plans in coherence with institutions' strategy, mission, and vision.
- 20 Feed the results to the quality assurance system of the educational institution.
- 21 Publicise information from graduate surveys, about self-evaluation and review, announce strengths and weaknesses and measures to be taken. Take the opportunity to use this information in order to make your institution more visible and attractive to learners.
- 22 Analyse the data on a regular basis and keep all the analysed data in an presentable/comparable way, also visually, to be able to keep the track to see the tendencies throughout the years.





Appendix 3

**Establishing
procedures for
tracking surveys**

Appendix 3:

Establishing procedures for tracking surveys

It is the responsibility of the VET provider to establish a coherent procedure for setting up, managing and administrating the graduates tracking survey. The procedure should include the scope of the survey, objectives, responsibilities, methodology, quality criteria and tool. An indicative procedure⁽¹⁾ is presented in the following table:

Scope	The procedure describes the setup, management and administration of the graduates' online tracking survey ⁽²⁾ .
Objectives	The objective of the graduates' tracking survey is to gather feedback from VET graduates on issues of: ✔ Employability and quality of jobs; ✔ Further progress in education; ✔ Quality of education provided by our institution; The information from the graduate tracking survey will be used, in order to improve our service in the field of education provided, vocational guidance and link with the labour market.
Responsibilities⁽³⁾	Different people will be involved in the graduates tracking survey, as follows: ✔ Team leader: Overall responsible for the survey, responsible for the allocation and monitoring of tasks. ✔ Administrator: Responsible for the overall administration, collecting graduates contact information, sending out the invitations, follow up on invitations, provide support to participants and answer to their questions. ✔ IT expert: Responsible for installing the online survey, administering the web-service, providing support to participants and extracting the survey results. ✔ Analyst: Responsible for analysing the results and preparing the report. The management of the VET provider will allocate the necessary resources and provide all the necessary support to the team, as well as give directions for the objectives of the survey and the indicators to be measured.

Methodology	The methodology that we will follow is analysed into the following steps:			
	What	Who	When	How
	Define indicators and data to be gathered, develop the questionnaire ⁽⁴⁾	Team leader with the management of the VET provider	February	They will go through the "On Track" survey tool and select the indicators and corresponding questions. ⁽⁵⁾
	Sampling	Team leader	February	Select the sample of the graduates that will participate in the survey. ⁽⁶⁾
	Define the method of data collection ⁽⁷⁾	Team leader, administrator	February	The survey will be exclusively online.
	Administrative contact information of graduates	Administrator	February	Prepare a list of e-mail addresses of all graduates of 2017 – 2018.
	Set up the online survey	IT expert	February	An online survey will be set up on the website.
	Launch the tracking survey	Team leader, administrator, IT expert	Beginning of March	An invitation will be sent to all graduates, to participate in the survey.
	Run the tracking survey	Team leader, administrator, IT expert	March	The administrator will monitor the replies and send reminder emails, if necessary.
	Analyse the results	Analyst, team leader	April - May	Make a statistical analysis of the survey results, find correlations, prepare graphs and tables.
	Produce survey report	Analyst, team leader	June	Produce a full survey report.
	Produce presentation with main results / executive summary	Analyst, team leader	June	Prepare the executive summary, key recommendations and a presentation for the management team.
	Feed the results into the QA system of the VET provider	Team leader, management	September	Present the survey results on the Management Committee. Take decisions and define actions for improvement.
Quality criteria	The survey on recent graduates should reach a response rate of 50%⁽⁸⁾. The survey tool will keep track of the recipients that have not completed the survey, to facilitate the sending of reminders. If the response rate is lower, the following corrective action will be performed: ♥ Reminder emails will be sent to participants.			
Tools	On Track tool for EFQ level 2-3, 4-5 and 6-7 in seven languages, available at http://www.ontrack-project.eu/en/results-en Form: Graduates' Tracking Survey.⁽⁹⁾			

Table 8: Procedure Graduates' online tracking system

Notes:

⁽¹⁾ The procedure is provided as an example. The VET provider can use it as a reference and adapt to its own needs.

⁽²⁾ This is the general procedure. The first time that the graduates' tracking system will be implemented, it will need more time for set up and preparation, while the following years the preparation time will be reduced. The steps, however, remain the same.

⁽³⁾ The people that will get involved and their specific tasks will be determined by each VET provider, following their own internal management structure. Depending also on the size of the VET provider, some roles can be fulfilled by the same person (e.g. team leader – administrator).

⁽⁴⁾ It is advisable to agree on a set of core indicators and measure them over time. However, the VET providers may also opt to add/delete indicators and questions, to fit their current needs.

⁽⁵⁾ The VET provider may choose to develop a questionnaire from scratch or adapt the On Track questionnaire to their needs.

⁽⁶⁾ In many cases, the target group of the tracking survey may be the entire population of graduates, in this case, there is no sampling method.

⁽⁷⁾ Other methods of data collection may also apply, like telephone interviews.

⁽⁸⁾ The response rate is indicative, the VET provider may define another benchmark

⁽⁹⁾ Sample of Graduates Tracking Survey Form

Title	Graduates Tracking Survey 2019
Target group	Graduates of 2017 and 2018
Sample	Whole population
Start - end	February – September 2019
Questionnaire	(link to the questionnaire)
Survey web link	(link to the online survey)

Table 9. IDEC own description

Appendix 4

**Description of
the seminar**



Appendix 4:

Description of the seminar

Title: Establishing a tracking mechanism in a VET institution.

Target group: Staff that will get involved in the graduates' tracking survey including management, administration and technical staff.

Duration: The duration of the recommended programme is 3 days X 4 hours per day. The VET provider may choose to adopt the recommended programme to fit their own needs.

Rationale and Objectives: The main objective of the seminar is that the participants acquire the necessary competences to design, implement and use the tracking system, to establish the tracking mechanism and integrate it into the quality assurance system of their organisations or institutions. This is in line with EQAVET and EQARF Recommendation (2009), as this will promote quality improvements in VET providers and will support the evidence-based monitoring of graduates.

The seminar will provide both theoretical and practical elements using a mix of active adult learning methods. In this sense, regarding the training methodology, the learning activity will include presentations followed by hands-on activities. Participants will use computer-rooms for learning to create and manage surveys.

During workshops, the participants will create and adapt methodologies for developing a tracking system and integrate it into the quality assurance system of their organisations or institutions.

Learning outcomes: On completion of the seminar, the participants are expected to be able:

- ✔ To design and implement their VET graduates tracking system;
- ✔ To establish the tracking mechanism and integrate it into the quality assurance system of their organisations or institutions.

Instructors: Staff from On-Track partnership that has attended the project learning activity “Establishing a tracking mechanism in a VET institution” and have been certified to conduct such seminars.

Facilities – equipment: A training room equipped with a data projector and PCs or laptops for all participants.

INDICATIVE PROGRAMME OF THE SEMINAR

Day 1: Tracking VET graduates - Context and On Track methodology (4-5 hours):

Tracking systems for VET graduates

- ✔ Context on different countries
- ✔ Typology of methodologies and approaches, characteristics, pros and cons

Workshop: Relevance and importance of VET graduate tracking systems.

On-Track methodology, presentation of the tracking system and its main features.

Tracking questionnaires – presentation of different versions.

Workshop: Selecting the appropriate questionnaire – adapting it to the needs of the institution.

Day 2: Establishing the tracking mechanism – Integration with QA system:

Workshop: Establishing a tracking system.

Step-by-step methodological guidance (defining overall objective and strategy, define indicators and data to be gathered, select data selection method, sampling, administrative contact information of graduates, run the tracking survey, follow up, evaluate and use the results).

Workshop: Integration of VET graduates tracking system with organisation quality assurance system (identify existing administrative data, establish procedures for tracking surveys and train the involved staff, establish a procedure for data analysis and use, feed information from tracking surveys into decision making systems, develop a procedure for management review and action plan).

Day 3: Technical implementation of online surveys:

Online surveys

✔ Presentation of Google Forms and EU survey tools

Hands-on workshop – internal testing

Workshop: Case studies

Workshop: Further potential of VET graduates tracking systems

(use of data at the system level, benchmarking with other providers, strategic planning etc).

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