

Discussion 5

9 key words/expressions

- *Measurement*
- *Qualitative and quantitative indicators*
- *Variables*
- *Comparability*
- *Characteristics*
- *Indicator system*
- *Dimensions*
- *Micro, meso and macro level*
- *Common core of indicators*

◆ Starting point to build up indicator systems to measure the impact of training (policies, programmes, and different types of interventions)

✚ The concept of indicators given by several authors has not varied much since the one provided by Geisler (2000). FINEP (Research and Projects Financing), a Brazilian government agency, which assesses and conducts studies and projects, provides advisory services and uses indicators, has defined them as: **“quantitative and qualitative specification to measure the achievement of an objective”** (FINEP, 2002). OECD classically defines (OECD, 2001) indicators as “[...] a series of specific data to answer questions about a given phenomenon or system.” ISO (International Standard Organization) states that an indicator is: an **“expression (which may be numeric, symbolic or verbal) used to characterise activities (events, objects, persons) both in quantitative and qualitative terms in order to assess the value of the activities characterised”** (ISO, 1998, p. 3). (Gabriela Torres Rizza, extract from the article by Helen Beatriz Frota Rozados).

✚ **“Indicators are qualified and/or quantified parameters that are used to determine up to what extent objectives of a project have been achieved within a certain deadline and a specific place”**, it is a sort of mark or signal that intends to express and show the reality in a way we can observe it and obtain more specific data for a better assessment. (Andrea Barboza)

✚ As a starting point to build up an indicator system, it seems convenient to determine the following:

- a. Meaning of all used concepts.
- b. Description of the type of action, that is, determining the object or service that is being offered.

- c. Essential characteristics of the initial scenario that creates the evaluated situation or process (baseline).
- d. Purposes to be achieved (by clearly identifying the expected situation).
- e. Scope of intervention, factors that promote it and obstacles.

The quantity and quality of the requested information shall be determined by the purposes, scope and moments of the assessment.

It is crucial to have an indicator system that shows not only the extent of achievement of goals in terms of quantity but also the quality of the process.

It is thus important to take the following into account:

- a) An indicator on its own does not show the impact of a process; therefore, it is necessary to build up an **indicator system**. These systems can never be pre-developed, they should be contextualised within the reality that is to be measured, and validated and adjusted to the field, before being implemented.
- b) **Each reality demands different indicator ranges**, or even different indicators, according to the time in history and/or the progress of the project.

It is also important to take into account that indicators are signals, signs, expressions, samples or marks of any event, occasion or process that evidence the extent or magnitude of a problem or the accomplished degree of the impact.

They are an objective way of assessing the expected changes and variations through the planned intervention process of the programme or project.

They are based on a rationale primarily determined by the interest of those who encourage the assessment. For example, a private company may be influenced by the IRR or the NPV, or an environmental entrepreneurship may be led by the compliance of pre-established goals or the impact of the actions.

Indicators are laid down according to their type and the characteristics of the processes, as well as to their context.

Very often, the definition of indicators to assess the impact of a specific programme or project cannot be done *per se*. On the contrary, it is the nature of the process, or the subject that is being dealt with, which shapes and guides the definition of indicators.

For some projects, it is not enough to provide a list of indicators or variables; it is necessary to agree on the type of relationship and dependence among them (association, influence or causality), as well as their value (meaning or weighting). (Humberto Aguirre)

◆ What do indicators “indicate” or describe?

- ✚ It can be observed that the ideas of: measurements, qualitative and quantitative are constant in the notions herein presented, thus, it may be noted that indicators are units that allow to measure, in the case of quantitative elements, or allow to verify, in the case of qualitative elements, if goals or planned changes are achieved. Further, they allow a better knowledge of the progress with respect to results or impacts. An indicator, therefore, is mainly a measuring tool used to collect quantitative and/or qualitative data from a certain factor with the aim of assessing and helping in decision-making. (Gabriela Torres Rizza, summary from the Article of Helen Beatriz Frota Rozados.)
- ✚ Indicators indicate, but they are not reality. “They are founded on the identification of a variable, i.e., any aspect that varies its status or situation, this variation may be considered as capable of showing a situation in which we may be interested” (Valarelli, 1999). (Andrea Barboza)
- ✚ Indicators are built up by variables; **a variable indicates a value expressed by a certain unit**. For example, the variable Unemployed People (UP) is the number of workers that, at the time of the survey, answered they were unemployed. Another variable may be the total amount of economically active population (EAP) of a country, usually calculated based on to census data. When comparing the UP with the EAP variables, we obtain the indicator *Unemployment rate*; it is a rate because it is expressed in percentage. Thus, the definition of variables is essential at the time of developing indicators. It is also crucial to build up indicators that actually “indicate” anything. There is a well-spread rule known by its acronym “SMART” that stands for the desirable characteristics of indicators: “specific, measurable, appropriate, realistic and time bound”. Impact indicators should therefore contain impact variables. We should thus go back to the issues dealt with in previous weeks. The impact of training should be measured by the improvement in the quality of life of beneficiaries (income, decent jobs, social inclusion, citizenship) or the increase in productivity of the enterprise (more and better products and services with less deadweight costs, less flaws, less complaints, etc.) No doubt, the job of determining relevant variables to build up impact indicators is one of the most sensitive stages. Several technical documents available to this community offer cases and examples; it would be worth taking a look at them. (Fernando Vargas)
- ✚ In order to assess the impact of the Continuous Training System as for improving the access to (or employability conditions) and continuation of employment, it seems convenient to have a look at how the **specific training policy objectives are put in place** by the Ministry of Labour, Employment and Social Security of Argentina. In this case, it is important to take into account some methodological aspects that were observed when determining the target indicators. These are linked both to an increase in employability and labour integration of

those who participate in certain actions of the system, as well as to its implementation considering the commitment of participants and their appropriation of the products or results attained by it, that is to say, the measurement of sustainability. For that purpose, the general objective has been disaggregated into specific objectives which have been categorised in dimensions as goals. Dimensions have been divided into **contextual dimensions** which refer to the political, social and labour context as well as the labour market, and which provide the framework to build up the system, and **substantive dimensions**. The latter are related to trained workers, employability, the quality of training institutions offering the service, and the progress made in the institutionalisation of the system.

The scope of objectives can be verified once the controlled goals are achieved through the selected indicators, and explained in the matrix of indicators.

In their book *Evaluación de proyectos sociales*, Cohen and Franco state that "the fundamental problem of empirical research and assessment is finding empirical benchmarks and indicators for the dimensions that at the beginning were only theoretically defined and are the subject of study."

They thus conclude that an indicator is a **unit that enables to measure the scope of a specific objective**. According to them, indicators can be direct or indirect when they are built up and cannot be translated into a logical implication. Some examples of built indicators can be found in the description of the matrix of indicators included in the previously submitted document. Among the variables that describe the context of the labour market, we can mention: employment, activity and unemployment rates and the variation of this indicator throughout the period of implementation of the system, and the increase or decrease of the GDP.

By stating that the indicator enables to measure the scope of the specific objective, we mean to say that it is expressed through concepts or variables whose categories, which should be both comprehensive and exclusive, are operationalised through indicators. (Susana Barasatian)

✚ It has been stated that impact assessment is not the same as a fulfilment, learning or applicability assessment; actually, the objectives are different as well as the methodology and techniques that should be applied. In fact, the information obtained from a follow-up process or assessment does not account for the reasons of such results or their causality; this scope of information is approached by an impact assessment and not a follow-up process.

However, it should be taken into account that the particular stages or outlines of a process are supplementary roles of a **larger dimension of an assessment and follow-up system**. Therefore, a monitoring and evaluation system enables to gather information at different levels to make decisions on the short-term adjustments of the implementation, or most structural adjustments of policies.

The following is a brief presentation of the monitoring and evaluation system based on the guide produced by Zall and Rist (2004). Furthermore, important aspects on the building of indicators and specific cases of impact indicators are presented.

ON MONITORING AND EVALUATION SYSTEMS

The system is made up by a value chain of the programme or policy that starts with the processes and management, continues with the measurement of impacts and ends up with the aggregate analysis. Regarding indicators, four types of supplementary indicators are included. They differ in their objectives, the frequency of data-gathering, sampling and the type of actor that creates information. They are described as follows.

Management indicators

They follow up processes, inputs and activities that have to be implemented with the purpose of obtaining specific outcomes of a policy or programme. For example, budget execution by learner, investment in training for trainers, amount of benefits for learners, learner to trainer ratio, etc.

Product indicators

They measure the goods and services provided by the programme. They are the result of activities and the transformation of inputs; therefore, such products are directly connected to management. For example, number of registered learners, number of graduate learners, dropout rate, graduation rate, etc.

Effect indicators

They refer to the immediate arisen consequences on the population due to the benefits brought by the project and/or programme. They are generally associated to a short-term period. For example, number of graduates working in activities related to the training taken, number of productive units created by learners, etc.

Impact indicators

They are the expected change in the situation of beneficiaries once the objectives of projects and/or programmes are fulfilled. That is, long-term effects or impacts that imply a change in the conditions of life of a target population. Therefore, indicators are defined based on the expected changes in the society considering the suggested objectives. The final section of this document includes examples of this type of indicators.



Source: Fedesarrollo 2008

Within the chain of value two large groups can be separated: the first one refers to the implementation by carrying out processes and delivering products

or goods of the programme; and the second one refers to the results and impacts. In the latter, indicators do not depend exclusively on the executors of the programme; results can also be influenced by external variables to the programme.

The abovementioned indicators will be formulated according to such value chain. (Gustavo Vargas)

- ✚ At this point, one does not know exactly what to evaluate, as such a boundary is not defined. However, to evaluate in general the impact of in-plant or vocational training, the evaluation result should provide data or information i.e., individual performance, productivity, employment, income, and qualifications to mention a few. This data should also be disaggregated by age, gender and other specific socio-economic characteristics.

Therefore, whatever intervention or treatment is provided, indicators should specify how the purpose of the treatment is to be measured and verified. Indicators will also provide the basis for monitoring progress. In other words, indicators can serve to measure objectives and to draw conclusion. Indicators can be quantitative and objective, qualitative and objective, and qualitative and subjective.

All indicators can be considered good, because the situation that is being evaluated may be different from another. Nonetheless, indicators should be specific, measurable, attainable, time-bound and relevant to the objective of evaluation.

I do not think that a common indicator is necessary because the objective or purpose of any evaluation should determine the indicators.
(Hassan Ndahi)

✚ Types of indicators

Absolute values	They are used to show in absolute terms the assessed situation or the advance made in order to give an idea of the magnitude of the situation.
Percentages	They highlight distribution aspects since they moderate absolute values.
Averages and other mean statistical measures	They refer to typical behaviour in which phenomena are classified according to a numeric scale. Data analysis can be made based on a mean value.
Growth rates	They can show the evolution or behaviour of a particular phenomenon over certain time.

Process advance scales	They are used mainly to determine the qualitative change in processes.
Currency unit	It is used in projects that measure the investment return, cost-effectiveness, profitability, etc.

(Humberto Aguirre)

✚ According to Nydia Rojas, Coordinator of the GEIC (Central American Native Ethnic Groups) Project, indicators can be **classified** into **generic** and **derived** indicators. **Generic indicators** can be divided into five groups:

- ∅ **Input indicators (resources):** These are related to the amount, the cost, and characteristics of the resources used to carry out an activity, offer a service, make a product or conduct a programme.
- ∅ **Output indicators (products or services):** These refer to the results obtained by using the inputs; they can be indicators in terms of the amount of products and services and their characteristics: quality, time saving, availability and accessibility.
- ∅ **Use indicators:** They relate to the degree of using or not using, and the factors that affect using or not using: purpose of using, importance, fulfilment with the characteristics of the products, awareness and easiness to use.
- ∅ **Indicators of the consequences of using or not using:** They deal with the consequences of using or not using the information or the service. It includes the time saved, the increase in productivity, the improvement of the quality of life, the appropriate use of time at work, and derived profits.
- ∅ **Environment indicators:** They assess the characteristics of the environment where the project or information activities are carried out. For example: the ones who request the assessment, the population of users and no users, the information needs of users and no users.

Derived indicators can also be divided into five groups:

- ü **Operation indicators:** Indicators that relate inputs to outputs.
- ü **Effectiveness indicators:** Indicators that relate outputs to use.
- ü **Profitability indicators:** Indicators that relate inputs to use.
- ü **Cost-effectiveness indicators:** Indicators that relate inputs to results.
- ü **Impact indicators:** Indicators that relate use to results. (Humberto Aguirre)

◆ **What would be necessary to build up a good indicator (or indicator system) and how is it built up?**

- With respect to the characteristics that are important for a group of indicators aiming to guarantee the validity of data collection, Martinez et al. (1998) suggest: **Generality; possibility of correlation between different variables or different contexts; temporality.** Francisco et al. (2000?) point out that any evaluation starts from a comparative principle, therefore, it is necessary that

there exist **data liable to be compared** and that may be collected in a similar way in all cases.

The opinions of Martinez et al. (1998) and Francisco et al. (2000?) present the same concerns, since generality, the possibility of correlation, and temporality, which aims to establish statistical series, are aspects that will allow the creation of data and information liable to be compared.

Besides being an evaluation instrument, and precisely for that reason, **indicators are also management instruments**. Management involves the capacity to operate on key dimensions of systems and different processes by changing their status and their directions (ALBORNOZ et al. 1997).

Indicators, so as to be useful for the management, must necessarily be standardised and their historical production (temporality) must always be subject to the same standards or way of measurement so as to allow comparability.

In order to select indicators, it is necessary to have a precise notion of the organisations and systems to be managed, this fact may present different levels of easiness or difficulty. Therefore, there are different types of indicators to carry out adaptations to organisations, objectives, goals and mission, thus, making possible to measure different types of activities or achieve different objectives.

It is worth mentioning that indicators may be useful tools if they are regularly built aiming to create time series and allowing to view **tendencies in time and data, as well as making international comparisons possible**. Besides, data need to be available for a broad public and in an accessible manner. "(contributed by Gabriela Torres Rizza)

- Marino (1998) considers, with respect to outcome indicators, that the goals of the project or programme and the questions asked to guide the evaluation are important sources to define partial or final outcome indicators.

When we think about indicators for social projects or programmes, we confront with additional difficulties to define and explain them properly.

Pursuant to the article of Professor Rebecca Raposo (in Ávila, 2001:98), "diversity of social actions, as well as the different scenarios and circumstances in which they take place, makes the definition of a group of standard indicators inexpedient and even unfair for social differences". The author proposes a better understanding of the possible impacts caused by projects and programmes when the actions included in a detected and precise focus are firstly viewed.

Afterwards, when considering a series of variables, she proposes verifying the impact in a wider way and, in some cases, being able to achieve the so-called plan of public policies. At the same time, she also proposes the tangible impact, which is easier to measure, and the intangible impact, which may be measured by observation and it is easier to be affected by subjective variables (Ávila, 2001:99). The question that arises at this moment refers to which would be the more appropriate combination of quantitative and qualitative indicators, and the necessary amount to provide a reliable database for monitoring and evaluation.

According to Armani (2001), a good indicator system must: have more indicators at the activities and results levels and fewer indicators at the general objective level; be composed of an appropriate number of indicators for the project, gathering important information, but not in excess, in order to facilitate the operationalisation of the evaluation; make the selection process for indicators be as participatory as possible, including all the main actors of the project; promote regular reflections among the actors during all the project; explain verification means and data collection, as well as the persons responsible for that; and try to use the existing information or simply produced information with the aim of optimising the use of resources. (Andrea Barboza)

- ✚ To identify the necessary/recommendable type of indicators to measure the impact of training, it is necessary to analyse the desirable characteristics of performance indicators. According to Camargo (2000), indicators should be:
 - **simple and economical** – indicators should be easily developed and applied and imply no significant costs in order to be really understood and applied. By being simple, indicators “shall speak for themselves”.
 - **motivating** – indicators should be interesting to be applied, interpreted and used as promoters of appropriate corrective actions;
 - **reliable** – indicators should lead to the same result in identical situations;
 - **significant** – indicators should clearly illustrate the situation or characteristic that is to be modified;
 - **universally understood** – different organisations should understand in the same way the result of the application of certain indicators.

Parameters for the building of indicators; Camargo (2000) enumerates some essential parameters for the building of quality indicators:

- a) selectivity or importance** – indicators shall have the capacity to note a key characteristic of the product, service or process;
- b) simplicity and clarity** – indicators shall be easily understood and implemented in different levels of the organisation in an understandable language;
- c) scope** – indicators shall be representative enough, even in statistical terms, of the product or process which they refer to: those indicators that represent the global situation or context shall be prioritized;
- d) trackability and accessibility** – indicators shall allow the record and proper maintenance and availability of data, results and calculation reports, including information about the persons responsible for these records.
- e) comparability** – indicators shall be easily comparable to proper references, such as the best competitor, average of the sector and the excellence referential;
- f) stability and quick availability** – indicators shall be perennial (lasting) and built on the basis of standardized procedures, incorporated at the processor’s activities. They must allow to carry out a results foresight, when the process is under control;
- g) low cost of acquisition** – indicators shall be built at a low cost by using dimensionless or simple dimensional units, such as percentage, time units, amount in legal tender, etc. (Regina de Fatima Torres)

- ✚ **Requirements of indicators.** Some requirements that should be met by indicators include the following:

Validity	They should reflect the desired impacts, in such a way that these may be verified, and so that they are not mistaken for other factors.
Reliability	Measurements performed by different people, using the same indicators, should produce comparable results.
Demonstrable effect	Evidence should be given of concrete samples of changes intended to be measured.
Relevance	They should be consistent with the objectives and nature of the assessed process, as well as with the conditions of the environment on which these are developed.

(Humberto Aguirre)

- Every assessment identifies the substantive axes on which the building and analysis of data shall be organised. Said analysis dimensions or axes highlight significant aspects on which the assessment of policies whose effects are under analysis shall be based.

The dimensions constituting the assessment are closely related to the identification of the initial situations that caused the implementation of sectoral lines of action. These are the substantive dimensions that, together with the contextual ones, shall be displayed on indicators.

Indicators are, then, **variables that empirically express the substantive abstract dimensions or axes that, due to their complexity, cannot be directly observed, but that require a number of theoretical and empirical operations to be evidenced.** In line with the contributions of Gustavo Vargas, Fernando Vargas, Regina Torres, and Irma Briasco, we would like to add two more conditions to the ones proposed by our colleagues that should be taken into account when defining indicators:

Power of discrimination: The capacity of indicators to discriminate or differentiate units with different values considering the phenomenon to be measured; these differences should be effectively noticed based on the system of categories proposed for each indicator. In this sense, the proposed indicator system, apart from comprehensive and exclusive, should be adjusted to the differences defined as significant for the specific work scenario.

Feasibility: The capacity of variables to be effectively built for the proposed work scenario. A number of indicators identified as valid cannot be measured in the defined work scenarios, which should be taken into account in the design of the assessment proposal.

Besides, we should point out that what is important is not building a set of indicators but a system that includes in its articulation the changes brought from the implementation of the policy to be considered. In this regard, it is important to consider that indicators represent approximately the dimension they intend to measure, and that their relation with the theoretical concept is

therefore probabilistic, so the articulation between indicators becomes relevant. (Nora Morales)

✚ The selection of indicators requires a political decision and technical rationality. In our work, the political decision is related to the consideration of the general objective's relevance and the impact of a Continuous Training System in the labour life of workers. It is not just about the relation between a vocational training course and its labour insertion possibilities, but about estimating the quality achieved by the training actions through the outputs or inputs these provide to the System's participants and the devices created for their sustainability (institutionalization of social dialogue through Sectoral Councils, Qualifications Matrix and its use by social actors).

Likewise, technical rationality is reflected in the selection of, for instance, a methodology which starts by building a baseline identified by a set of indicators, the evolution of which shall be assessed at different times throughout the project and once it has been completed. These indicators^[1] shall be observed on a sample of workers, entrepreneurs, unions, institutions reached by training policies. The temporal comparison between indicators shall be adapted to the substantive significance levels defined.

This set of indicators selected in the data-gathering instruments may be enhanced during the course of the project and shall be associated with appropriately detected effects expressed in concepts or variables.

As previously stated, for the selection of indicators proposed in our work, we have followed the criteria of Cohen and Franco, and those stated by Navarro in his *Manual para la Evaluación de Impacto de Proyectos y Programas de Lucha contra la Pobreza*, whereby, referring to the UNDP recommendations, indicators should meet the following criteria: a) the meaning of the indicator is clear; b) data are easily available; c) the indicator is tangible and can be observed; d) the effort to collect the data is within the power of the project management and does not require experts for analysis; e) the indicator is sufficiently representative for the total of the intended results. (Susana Barasatian)

✚ **ON THE FORMULATION OF INDICATORS.** In his participation in Discussion 5, Fernando Vargas suggests to consider the good performance of indicators by following the well-known "SMART"¹ criteria. In the Colombian case, for evaluation and follow-up systems, the National Planning Department has chosen the native version with the acronym "CREAM":

- ✓ **C**lear: precise and unambiguous.
- ✓ **R**elevant: appropriate to the subject at hand.
- ✓ **E**conomic: available at a reasonable cost.
- ✓ **A**dequate: providing sufficient basis to assess the performance of the programme or project.

¹ Although with a similar purpose, there are different versions of these criteria, i.e. specific, measurable, attainable, relevant and trackable, used by the United Nations Development Programme.

- ✓ **Monitorable:** amenable to independent validation

Clearly understanding the above, the formulation of defined indicators should include information that allows specifying the scope and most important features, for instance:

- Type of indicator: management, output, effect or impact.
- Measurement unit: reference parameter used to express the output size.
- Calculation formula: equation or rule with the necessary data to obtain a quantitative value of the indicator.
- Frequency: time frame in which information is updated.
- Person in charge: the person responsible for generating the indicator. (Gustavo Vargas)

✚ The subject of indicators is challenging and we must pay attention to some aspects regarding control, organisation and data recovery.

The **organisation of information** requires a record system to avoid important data being stored in the wrong place. Think about the way in which information relative to each collection method must be stored and the format of such storage.

The **control of information** requires the certainty that nothing will be lost, ignored, prematurely disclosed or not used in the proper way, breaching the evaluation policy. The evaluator, as the information manager, shall be responsible for guaranteeing that collected data is secured. The work team that has access to said data must receive a full training in proceedings related to storage, disclosure and secrecy.

The **verification of information** guarantees that quantitative and qualitative information are securely stored. Information samples must be verified twice to guarantee the encoding precision. Confirmation and multiple verifications must be used to reduce the possibility of wrong interpretations.

The **storage and information recovery** may be carried out both in computer files and in raw data files. Raw data must be securely kept at least for 3 years. Monitoring, reanalysis and evaluation researches may require the use of said raw data. In using raw data, it is necessary to plan recovery mechanisms for the referred information.

Those issues must be the constant concern of an Institutional Manager. For that reason, the permanent and efficient training of the work team that will analyze the data of the evaluation is essential. (Daniel Kluppel Carrara)

Indicator Building Process

A guide for the process of building indicators, suggested by Nydia Rojas, is summarised below:

1. To define the community of users that shall be evaluated.
2. To define the development area(s) to which the information project is contributing.
3. To identify the main patterns of the operation of the information life cycle and of the factors that affect its efficiency for the defined community of users.
4. To describe who will use the evaluation results.
5. To describe the community of users' information use environment (IUE).
6. To define the instruments to collect, analyse, interpret and present experiences and other data.
7. To establish reference data.
8. To define a working group with the beneficiaries' representatives (people in charge and final users), to identify benefits received from activities and information products.
9. To identify factors in terms of information availability that shall be included in the evaluation plan, following these steps:
 - a. To make a list of expected results or targets in hierarchical order; to define outputs, establish required inputs, and specify other factors that may have an effect on results.
 - b. To identify critical factors that are information by nature or that depend on information, in each hierarchical level.
 - c. To determine whether information resources are contributing to achieve the objective (economical, social and/or political).
 - d. To build indicators that would prove that information resources are adequate and have benefited users. (Humberto Aguirre)

◆ **Common indicators, which ones are suggested and why?**

- An effort for the **harmonization of forms and systems for the registration of VTIs' participants and graduates should be made**, mainly referring to the building of indicators such as estimations on workforce, employment and unemployment (and their different classifications by branch, occupation, category, etc.), at a national level in each country. These estimations come from household surveys. In other words, for an indicator to show the effects of a specific VT programme on the employed population at a country, urban or rural area level, or in a specific branch of activity, region, age group or sex, etc., the relation should be established with the estimations of employment surveys. For this reason, a significant starting point is the harmonization of registration forms with the conceptual framework of the definitions adopted within the ILO's International Conferences of Labour Statisticians. And obviously, it would be ideal that the forms of all VTIs in the region show some degree of harmonization. It should be noted, in any case, that this is only one aspect of the impact assessment, that still leaves the whole issue of graduates follow-up out, as well as variables associated with company productivity issues.

A meeting of the Programme "Formación Ocupacional e Inserción Laboral (FOIL)" (Occupational Training and Labour Insertion), implemented in the ILO Subregional Office in San José with the support of the Spanish cooperation, was recently held in the Dominican Republic, and had the participation of Central American and Dominican VTIs' planning directors.

The subject was, precisely, indicators of impact assessment, and I would like to take this opportunity to reproduce a presentation I made in that workshop on this particular subject. A brief summary of the workshop is also attached. Among other things, it was agreed to make progress on the harmonization of the VTIs' registration forms with the definitions of the employment surveys of countries. (Miguel Del Cid)

- ✚ To achieve the objectives it is important to determine the research question. All participants have to focus on one question. What we have seen so far is that some people have responded to micro issues while others to macro; both are important but can only be achieved by focusing on the question to be asked.

Coming from the research question then emerges sub-questions which relate to the micro issues OR can inform the macro question.

...Debate 5: To date not much has been posted in relation to this but it seeks to determine indicators. These emerge from the actual research and analysis. I suggest that based on these debates it may be easier to determine the indicators at both the macro and micro levels. (Hayle Carolyn)

- As to the type of results to evaluate, we believe that Ernesto Abdala's text provides four outstanding dimensions that we cannot, and should not, omit when dealing with vocational training, establishing accurate indicators that should be picked up in the Guide to be produced:

◆ **Beneficiaries:**

- ◆ Employment: labour insertion, job satisfaction, previous work experience and type of work
- ◆ Income
- ◆ Citizen role
- ◆ Competencies: basic, technical and psychosocial

◆ **Government:**

- ◆ Legislation
- ◆ Course quality standards
- ◆ Training/educational policies
- ◆ Specialised public offices

◆ **Entrepreneurs:**

- ◆ Growth
- ◆ Training/education cost-benefit
- ◆ Reduction of wastage
- ◆ Increase in productivity
- ◆ Higher competitiveness
- ◆ **Training/educational institutions:**
- ◆ Increased relevance to the requirements of the productive, social, educational and government sectors
- ◆ Institutional sustainability
- ◆ Promotion of the education-work coordination (From discussion 2 CONOCER México)

Before defining indicators, it is extremely important to contextualise that educational institutions, technical and vocational training institutions, and institutions created for training for and within work have been established with the main goal of complying with the social policies of their respective governments, regarding the human resources training that the country requires for its development in an environment of global competitiveness. This is achieved by educating, training, evaluating and certifying based on competencies.

Based on this goal, it is important to develop the necessary indicators to achieve the established objective(s) of contributing to the development of human resources required by each country so that they really have the skills, behaviours, capacities, knowledge and abilities to develop an occupation at a high level of performance, according to the requirements of the productive, government, social and educational sectors.

Indicators should help us determine the achievement level or value of predefined goals. Consequently, it is necessary to formulate goals, identify the criteria that shall be used to assess the achievement of proposed goals and the attained success rate, as well as future recommendations to develop activities in a specific programme.

Indicators should be developed to continuously and dynamically assess training, education and evaluation results in order to determine their effectiveness, i.e. the response to the demands of the world of work either in the productive, social, government or educational sector, according to occupational conditions and characteristics. Some indicators are:

- Performance level of learners in the labour market.
- Graduates with a job.

- o Time taken for graduates to get a job.
- o Graduates with a job in the training area.
- o Graduates with an informal job.
- o Level of income.
- o Labour market satisfaction with graduates per training area.
- o Graduates per productive, social, government or educational sector.

These are just some of the indicators that can be developed, but much depends on the identified goals and the requirements of each country or government.
(Magali Soria)

✚ Regarding the necessary and recommended indicator to measure the impact of vocational training, I think it would be interesting to work with dimensions. The classification of indicators by dimensions may benefit the building of performance indicators that may reflect the satisfaction level of all those involved in the training process.

With regard to the monitoring of graduates, the methodology of SENAI (Brazil's National Industrial Training Service) verifies the satisfaction of two audiences: direct beneficiaries: (graduates) and users: (contracting enterprises of SENAI graduates).

The graduates' (direct beneficiaries) survey evaluates the suitability of vocational training programmes to vocational and social expectations; Enterprises' (users) survey evaluates the suitability of training programmes to business expectations and to labour markets and services.

This methodology classifies performance indicators into 5 dimensions:

- **Employability** reflects indicators with respect to insertion and maintenance of graduates in the labour market: occupation, unemployment, occupation within the graduation area, in the industrial sector and in the formal labour market.
- **Socio-professional promotion** reflects indicators with respect to benefits verified as from the ending of the course: Income Improvement.
- **Client's satisfaction** reflects indicators related to the satisfaction of those who ended their studies, graduates and employing firms.
- **Suitability of graduates' profiles** reflects indicators relative to the suitability of the graduate's profile in basic, specific and management capacities.
- **SENAI image position** reflects indicators related to the acknowledgment of the graduate performance.

As an additional contribution to Discussion 5 - Indicators, I provide a list of performance indicators monitored in the SENAI graduates' monitoring survey. The programme of SENAI graduates monitoring started in 2000 as a pilot project, in which 10 units of the federation participated. Nowadays, the programme reflects outcomes from 25 to 27 Brazilian States.

Regarding the question about the importance of in-common indicators, if we consider the peculiarities of each of the institutions involved in that building, in

fact, it will be very difficult to monitor all the indicators from all the institutions. However, I think it is possible to work with a **common core of indicators**. In that regard, I suggest the building of a common core with the following indicators:

- Rate of graduates' occupation in the labour market.
- Rate of graduates' unemployment.
- Rate of graduates employed in their graduation area.
- Rate of graduates employed in the formal labour market.
- Average monthly income of graduates.
- Growth rate of average monthly income of graduates.
- Average satisfaction mark of graduates with respect to the course.
- Satisfaction level of firms with respect to graduates.

I would like to ratify the importance of the **alignment of notions** in order to prepare a guideline for the impact assessment of vocational training. (Regina Torres).

- The public policy that is being developed by the Argentine Ministry of Labour, and whose assessment we are sharing with our Cinterfor colleagues, intends to make some changes on workers, vocational training institutions and actors committed to said policies, that is, why the indicators presented correspond to expected changes in each mentioned scenario. Anyway, as a small contribution, we would like to share with you some indicators that we believe are essential regarding the expected changes on workers.
 - % of the unemployed participating in the Programme(s)' training actions which started working in registered jobs. (Up to 6 months after graduation.)
 - % of entrepreneurs that incorporate graduates from Vocational Training Institutions strengthened by the Programme(s) within their companies.
 - % of workers that perceive changes on their performance and the knowledge of their work after graduating from vocational training courses provided within the framework of the Programme(s)' policies.
 - % of workers that improved their working conditions after graduating from training activities carried out within the framework of the National Continuous Training System (up to 6 months after graduation). (Nora Morales)
- Takashina and Flores (1996) state that an indicator must be built on a criterion basis so as to guarantee the availability of the most significant data and outcomes in the minimum possible time and at the lowest cost. These authors insist on the key role of indicators and present other characteristics:
 - a) indicators are strongly related to the notion of quality focused on the client.** They have to be built from the clients' needs and expectations by means of the quality characteristics of the product or service, whether tangible or not;

b) indicators allow multiple goals of business, within the organisational structure, thus, they guarantee that the improvements achieved in every unit will contribute to the global aims of the organisation;

c) indicators must always be related to those business areas whose performances cause a greater impact on the organisational success. Thus, they will support the critical analysis of the business outcomes, decision making and re-planning;

d) indicators make feasible a continuous quality improvement of products and services and of the organisational productivity, resulting in an increase of their clients' satisfaction, competitiveness, and consequently their participation in the market. (Regina de Fatima Torres)

- **PROPOSAL ON IMPACT INDICATORS.** From the above considerations, we propose below a series of basic impact indicators and another set of supplementary indicators for the evaluation of technical and technological programmes within the framework of integral work training.

First of all, taking SENA's strategies and programmes as a starting point, the indicators that will be presented refer to the training described below.

Technical training

The technician degree is awarded to those who have satisfactorily followed a training programme allowing apprentices to acquire competencies to develop specific activities and solve problems in a defined range of functional areas with predictable answers; to understand and apply the productive process, to use defined techniques and instruments, to perform operations to obtain concrete results and to answer for their own work.

Technological training

The technologist degree is awarded to those who have satisfactorily followed a training programme allowing apprentices to acquire competencies to apply technical and technological knowledge in order to solve strategic problems of a specific area, to coordinate and supervise interdisciplinary activities in the fields of technique and technology, to organise and manage resources, to manage productive projects, to communicate ideas, to answer for the results of their own work and for those of people under their control, and to ethically assume the typical social and organisational roles of their environment. Besides, the programme is oriented towards the development of the necessary competencies to guarantee the interaction between the scientific and the instrumental matters, and the operational and the technological knowledge.

It should be noted that the technical and technological training provided by SENA is the strongest in terms of duration, but particularly regarding the effects sought in the beneficiary population. Therefore, the impact assessment, in contrast to the follow-up evaluation, is more frequently performed, every time its results are used for structural changes or improvements on the programmes.

Basic indicators

#	Name of the indicator	Measure unit	Formula	Frequency	Explanation	Remarks
1	Employability related to becoming part of the labour force	Percentage (likelihood)	The likelihood of being hired is estimated through econometric methods.	It is suggested not less than 2 years.	By carrying out a training programme, it is expected that beneficiaries have a higher probability of being employed since the intervention is oriented to improve the skills and competencies of participants in the labour market.	In impact assessments, results are usually presented in terms of additional percentage points of the graduate, compared to the results of the control group.
2	Job duration	Weeks / Percentage (likelihood)	By econometric methods, it is possible to estimate the period of time of being unemployed / likelihood of being unemployed.	It is suggested not less than 2 years.	By carrying out a training programme, it is expected that beneficiaries are less time unemployed than those who do not participate or who have dropped out of the programme.	In impact assessments, results are usually presented by comparing the graduate's results with those of the control group.
3	Job quality	Rate / percentage	The rate is estimated according to a set of variables and by econometric methods	It is suggested not less than 2 years.	By carrying out a training programme, it is expected that the job quality of beneficiaries is higher than that of the control group. Regarding this, it is possible to analyse variables such as access to social security, degree of formality of the job, duration, type of contract, labour and non labour benefits, job post and size of the enterprise, among others.	In impact assessments, results are usually presented by comparing the graduate's results with those of the control group.
4	Labour income	Currency (pesos, dollars, etc.)	The labour income of graduates is estimated according to econometric methods.	It is suggested not less than 2 years.	By carrying out a training a programme, it is expected that graduates attain higher labour income in comparison to the people of the control group.	In impact assessments, results are usually presented by comparing the graduate's results with those of the control group.

Supplementary indicators

#	Name of the indicator	Measure unit	Formula	Frequency	Explanation	Remarks
1	Employability related to being self-employed	Percentage (likelihood)	The likelihood of creating an enterprise is estimated through econometric methods.	It is suggested not less than 2 years.	By carrying out a training programme that fosters entrepreneurship, it is expected that beneficiaries have a higher probability of creating their own enterprise, given that the intervention is oriented to developing better skills and competencies to conduct this type of projects.	In impact assessments, results are usually presented in terms of additional percentage points of the graduate, compared to the results of the control group.
2	Labour mobility	Percentage (likelihood)	The likelihood of getting better jobs is estimated through econometric methods.	It is suggested not less than 2 years.	By carrying out a training programme, it is expected that graduates have a higher likelihood of getting better jobs or salaries, either in the enterprise where they already work or in another enterprise.	In impact assessments, results are usually presented in terms of additional percentage points of the graduate, compared to the results of the control group.
3	Academic and vocational training continuity	Percentage (likelihood)	The likelihood of carrying on training processes is estimated through econometric methods.	It is suggested not less than 2 years.	By carrying out a training programme, one desired impact is to promote continuing training among beneficiaries. Therefore, a higher rate of training it is expected among senior education levels.	In impact assessments, results are usually presented in terms of additional percentage points of the graduate, compared to the results of the control group.
4	Life conditions	Rate / percentage	The rate is estimated according to a set of variables and by econometric methods	It is suggested not less than 2 years.	By carrying out a training programme, it is expected to improve the quality of life of graduates and their families.	In impact assessments, results are usually presented by comparing the graduate's results with those of the control group.

#	Name of the indicator	Measure unit	Formula	Frequency	Explanation	Remarks
5	Changes due to methodological aspects of the training process	Percentage (likelihood)	The likelihood of experiencing different impacts due to training methodologies is estimated through econometric methods.	It is suggested not less than 2 years.	There are different aspects of training such as the intensive use of information technologies, labs, networking, etc. that have an influence on the outcomes and may be assessed to improve the implementation of programmes.	Effects can be presented as differential aspects between two methodologies taking into account the results in impact variables. The difficulty is that the effect has to be isolated from that of many variables so that the result is unbiased.
6	Attitudinal changes	Percentage (likelihood)	The likelihood of adopting attitudinal changes is estimated through econometric methods.	It is suggested not less than 2 years.	Among the factors that can improve the employability of beneficiaries, there are important qualitative variables such as a change in people's attitude and behaviour towards work. These include changes in self-esteem, creativity, and motivation to develop projects, among others.	In impact assessments, results are usually presented by comparing the graduate's results with those of the control group.

FINAL CONSIDERATIONS

- We agree with Susana that **it is inconvenient to consider a universal model of impact assessment**, and that instead it would be interesting to offer other alternatives to such dominant models. This would mainly reflect the fact that in the region there is a variety of programmes with different intensity and objectives. However, we believe that it is possible to provide a common set of variables, protocols or tools that, while respecting differences, enables some level of comparability.
- We insist on the need to make clear that **the impact of training is associated to a change in the welfare of beneficiaries**; therefore, impact indicators must be distinguished from other type of indicators that are related to follow-up of stages in management and the product of the value chain. (Gustavo Vargas)