QUALITY MANAGEMENT IN VOCATIONAL TRAINING

The use of standards and their different applications

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PRESENTATION

Quality is not a new subject for training, but the use of international standards or norms in the ambit of institutions to generate a new institutional culture certainly is. In the framework of strategies for implementing total quality management, more and more training institutions in Latin America have become interested in using international norms to certify the quality of their training processes, and this has had some degree of success.

Cinterfor/ILO has always been concerned with publicizing new trends and avenues, and with making known good practices which enrich training and yield better results for the users. Thus the objective of this document is to spotlight this phenomenon that has recently appeared, try to make known what is occurring in the field, and call attention to the characteristics of the trend to quality management in training.

This study is not intended to be a technical manual to guide the application of norms, rather it seeks to reflect on the experiences and motivation that were expressed by many of the people who have applied them both inside and outside institutions. Theoretical references to the advantages of standardization as a base for ensuring quality have been included, so have the experiences of a number of training institutions which have obtained the certification of quality, and the final section of this study is built around the most substantial of various standards which have to do with the work of institutions.

Far from giving a final answer to the numerous questions and initiatives, debates and assertions that are current or that could come up, this study presents a number of subjects that will certainly give rise to interesting debate. In this way it is expected that it will help to trigger conceptual progress about the significant trend towards total quality management. As always, Cinterfor/ILO will be very open to reactions and the demand for further information so as to promote the continuous improvement of this line of work, which is simply another dimension of the reality of the rich field of institutional training in the region.

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> ***"Measure twice, cut once"***
>
> Written up in a carpentry workshop in a HEART-NTA training center in Jamaica.

INTRODUCTION:

The increasing use of standards of quality as support for good management is one of the strongest trends in training at the present time. This study sets out to analyze the current situation of quality management through the application of standards in vocational training institutions in Latin America and the Caribbean. It also examines the relation of standards to the subject of ensuring quality. So as to give a brief review of the main trends in the application of the concepts of quality, it presents some experiences of quality management in training institutions, and it concludes with an analysis of the use of standards for managing and guaranteeing quality.

1. THE CONCEPT OF QUALITY MANAGEMENT IN VOCATIONAL TRAINING

Quality management has always been one of the main concerns of vocational training institutions (VTIs). As national institutions, their interest in providing an adequate response to the needs that they cater to obviously includes good "quality".

Those interested in training, or rather the clients of the institutions, want the training received to correspond to the skills and competencies demanded in work. Faced with ever-increasing demands for training and rapidly changing conditions, it has become necessary for those offering training to show society a job well done. Besides, the funds allocated to training are so great that often an analysis of their correct application and above all of their impact is required. In this context, quality in training will undoubtedly have positive effects.

> Quality management is an organizational strategy and a management method that effects the participation of all employees and seeks continuing improvement in the efficacy of an organization to satisfy the client.

Many people think that the concept of quality applied to training comes down to the success which the beneficiaries of that training achieve in the labor market. For this, different strategies which have developed and evolved since the 1980s with the so-called "boom" in quality, are used. Quality and training can be analyzed from the point of view of the institution's management on the supposition that an organization which complies with the principles implicit in the norm will consistently ensure the quality of its product.

This is how many training institutions have explicitly defined a policy of quality, and in consequence practice the strategic management of quality. This means establishing internal and external points of reference and implementing decisions which combine the two so as to progress towards achieving objectives.

Implementing the management of quality involves the application of a number of basic principles:

- Clear orientation to the client: to understand and satisfy the client's needs
- Continuing improvement in what the institution does: quality as a philosophy which never ends
- Defined and consistent processes: they are defined and their successful completion is guaranteed
- Guarantee of quality in processes: the quality of a product is derived from the preceding processes
- Prevent instead of supervising: the costs of preventive measures are less than those of close supervision

Organizations which have implemented quality management have in general accepted the following principles[1] :

- Commitment by management
- Teamwork
- Quality is everybody's task
- Centered on facts and the knowledge of objective data
- Systematic solution of problems conceived as "improve the most possible"

Two main avenues are recognized in the application of the concept of quality in training. The first has to do with ensuring or guaranteeing quality, and the second has to do with the development of action for quality management.

1.1. STANDARDS AND QUALITY ASSURANCE[2]

In general, quality assurance means the comparison between a determinate product or service and a previously defined standard which establishes the criteria to qualify the quality of performance in that area.

The standard that is increasingly being used in this ambit is the ISO[3] 9000 norm. This norm applies to quality assurance from a general perspective which is not specifically associated with any particular service or product. The starting point is the consumer. Currently the ISO norms are highly valued as a "seal of quality", and this valuation explains why their use has spread to VTIs.

The VTIs which have adopted the philosophy of quality management are taking action on their processes, defining them, documenting them, and verifying that they are carried out in a systematic and consistent way. Action is being taken on the "inputs" of the VTIs to achieve their objectives. Normally standards of quality are applied within a wide conception of quality management, which involves the application of the basic principles outlined above.

In fact, the standards of the ISO norms basically refer to the consistency and systematization of processes. They constitute a method for standardizing an organization's activities and for making the quality expected of the products and/or services reliable for the client. The ISO 9000 family of norms

[1] Applications of the ISO 9000 norms to teaching and training. European Training Foundation. 1998.
[2] In the literature in English it is called Quality Assurance. Most translations into Spanish use the term "garantía de calidad".
[3] This is the acronym for the International Organization for Standarization. It was founded in the United Kingdom after the World War Two with the aim of promoting international norms so as to facilitate the international exchange of goods and services.

The ISO 9000 series of norms were adopted in 1997 by the European Standardization Committee, and then assumed worldwide by ISO in 1994. The latest version of the norms date from the year 2000. The principle of certification under the ISO norms is based on revising and checking conformity with the norm, which provides a uniform method of inspecting quality.

is applied in quality management, and these ISO standards are not connected to the intrinsic characteristics of the product. In other words, even though the VTI may be certified under the ISO 9000[4], certificates of competency as to the quality of the performance of those who complete its courses are still required.

1.2. STANDARDS AND QUALITY MANAGEMENT

The fact that an organization undertakes a process that guarantees its quality is not only a question of procedures. A number of analyses have revealed a key underlying characteristic in these actions. This is the way in which the adoption of the principles of total quality, and the consequent journey through the certification process, generate valuable results for organizational learning that the theories of the management of knowledge have vindicated.

Institutional learning

In a number of experiences of the application of ISO norms, the necessary training process for all the workers has been documented. This learning is linked to the structuring, construction, improvement and documentation of processes. The people who are involved in it should question the procedures, make them explicit and document them.

In this process overlapping and gaps are found, this leads to improvement, and this in turn once again means learning. The complexity which the analysis of the processes introduces demands and develops new forms of learning.[5]

It is also true that debate about the ever-present risk of over-definition is applicable here. Detailing processes and describing steps and procedures have a threshold beyond which there is over-specification, and this annuls the descriptive capacity of the documentation. In terms of the management of knowledge, the process of documentation is a process of codifying knowledge, and in this process "abuses of codification can reduce spaces for learning and, in the long term, cause stagnation in the evolution of the organization"[6] .

The administration of knowledge

Nowadays, knowledge is valued as a resource, perhaps the most valuable that there is in the ambit of the VTIs. These VTIs are organizations for generating knowledge applied to training. Their most valuable asset derives from the capacity to translate the demands of the work on training programs; codified knowledge which has the capacity to induce the development of labor competencies.

After the decade of the 1980s, when there were all kinds of critical indicators about the exhaustion of the institutional model of training, alternative models demonstrated their deficiencies precisely in this area. The capacity to accumulate knowledge, educational capacities, methodologies of design and training, qualified teachers and processes of teaching-learning is a typical characteristic of the institutional organization of training.

[4] Although generic reference is made to the ISO 9000, it is well known that the ISO 9001 norm is what is used for certification.

[5] Labor Competency. Systems, Emergence, Models. Mertens. Leonard. Cinterfor/ILO. Montevideo. 1996.

[6] The management of productive knowledge: the ISO norms and the systems of quality assurance. Revista Comercio Exterior. Villavicencio, Daniel. Salinas, Mario. Mexico. June 2002.

Since the latter part of the 1990s, the VTIs have shown this capacity, and have applied their knowledge to developing new avenues; to innovate in the programs and apply new methods. Undoubtedly, the codification developed in the processes of quality management makes for this accumulation, and it can be put at the service of training. This is one of the potential advantages of the use of quality certification system in the VTIs.

The capacity that the VTIs have shown to innovate is demonstrating that their collaborators can put accumulated experience into practice and generate new pedagogic products in this way. In this, the organizational ambient is fundamental, and the deliberate intention of the VTIs to improve their capacities, facilitate the setting up of projects and areas of work that foster the generation of knowledge.

The VTIs oriented to knowledge "learn" through the storage, mobilization and administration of their experiences and information. Interaction with the business sector, obtaining data about the evolution of economic sectors and the content of the occupations there, all these are elements of accumulated knowledge.

The work of documenting the processes which support the accumulation and generation of knowledge has a close connection with the codification which is carried out during the certification processes. This component of knowledge is included and codified in the manuals and procedures established, and, besides defining the policy of quality, it is necessary to make a clear statement there of the process of vocational training, those who are responsible for the management of quality, in other words the responsibilities, in accordance with each process.

Regional and global recognition

The labor market is becoming more and more complex and less traditionally organized. The old fashioned traditional separation between work time and study time, the place to work and home, the place to work and the place of learning, is often diffuse.

Besides this, the number of entities offering training has increased. Now it is not only the national VTIs that predominate. The number of institutions offering training has increased, in some cases because of excess demand, and in others because there are funds for contracting training.

These offers are of variable quality and, both for clients and for those in the public sector who contract these programs, there is a need for a point of reference as to the quality of services. In this case, interest in quality comes from those who wish to be trained, from entrepreneurs who wish to invest in the training of their workers, and from those who provide the funds.

In the European Union, the use of quality norms is very widespread in the modality of continuing training.

Since 1989, the EN 45013 norm has been applied, namely "General criteria for organizations that administer the certification of persons". This norm was taken by the ISO as the base for its worldwide application as norm ISO 17024.

Therefore, quality certification mechanisms are being increasing applied as a recognition measure in a highly competitive market. Thus there is a second avenue in the utilization of standards, in this case centered on the guarantee of quality.

2. QUALITY MANAGEMENT IN TRAINING INSTITUTIONS

The progressive entry of new actors into the training offer, the availability of a variety of sources of finance, and the necessary relevance that is demanded of training programs are among the factors which have impinged on the genesis of the modernization and transformation processes in institutions. Currently, the processes of transformation and adaptation to change are priority subjects on the training institutions' agendas.

In a market which is diverse and which has numerous offers, the clients, that is the users of training,

have an increasing need to know which the best offers are, that is to say, which provide the best guarantee of quality. Both entrepreneurs and workers are seeking indications of efficiency. Providers of financial resources are also interested in the best use of funds invested in training. Institutions that are managed with quality are a social guarantee of the efficiency of public expenditure on training. The same logic can be applied to funds from the private sector; they should reach organizations which can provide training processes that are relevant, efficacious and efficient.

Quality and technological development

Some training institutions participate in national policies of quality and work in association with national standardization and accreditation organizations. This joint work is evident from the accreditation of their technological development centers (ISO 17025) to render measurement or testing services that are required to comply with the quality norms for different products in national and international markets. Examples of this are the national technology centers of the SENAI and the technological development centers of the SENA. Besides this, training and counseling is given to enterprises for implementing quality control systems, a service which institutions are offering more and more. This is also the case of the SENATI centers of services for small and medium sized companies, which give training with the emphasis on the improvement of quality.

This is why vocational training institutions are interested in improving the efficiency and relevance of their activities, and recently this has been reflected in the adoption of management mechanisms to ensure quality.

This trend is being expressed through the adoption of actions of direction and participation in which tools are adopted and institutional action to develop a culture of quality is executed. These activities, usually immersed in the philosophy of continuous improvement or in institutional modernization processes, involve training activity for personnel, the search for critical factors, and clarification of the mission and objectives which, in themselves, bring qualitative institutional improvements.

At the same time the institutions have sought an external seal of quality, and have had recourse to the guarantee of the certification of quality audited and approved by an external organization, under the ISO-9000 family of norms.

2.1 SOME EXPERIENCES OF THE CERTIFICATION OF QUALITY IN TRAINING INSTITUTIONS

VTIs began activities for the management and the assurance of quality in training institutions from the beginning of the 1990s in Europe, and a little later in the Latin American region. The first institutions implemented mechanisms for total quality management, and the majority sought certification under the ISO 9000 norms. In this section, some institutional experiences[7] will be described, and there will be a review of the information gathered in a survey of the institutions which have obtained quality certification in recent years.

The **National Industrial Training Service (SENAI)** in Brazil had one of the first experiences in the region. There were antecedents in the regional department of Santa Catarina with the application of the 5 "S"[8] program, and subsequent recommendation for ISO-9000 certification followed in 1997. The regional departments of Paraná (in 1997 the Paraná Institute of Technology was the first vocational training school in Brazil to obtain ISO certification) Besides that, the National Department of the SENAI was certified with the ISO 9001 with application in planning, the development and coordination of strategic projects, and operative improvement projects.

[7] This will not be an exhaustive list. The experiences for which it has been possible to obtain information are included by country.

[8] Japanese management control system oriented to fostering order and cleanliness. The 5 "S" are *Seiri*: Remedy; *Serton*: Order; *Seisou*: Clean; *Seiketsu*: Maintain; *Shitsuke*: Discipline.

The SENAI has antecedents in work towards the management of quality:

- Participation as coordinator of General Subprogram III of the Brazilian Program of Quality and Productivity (PBQP) in 1992: "The Education, Training and Preparation of Resources".
- Member of the commission of General Subprogram IV of the PBQP in 1992: "The adaptation of technological services for quality and productivity".

Since 1993, the SENAI has widely used an internal system of management and recognition of the quality of its training centers which, after an evaluation process, awards them the title of "Model Centers of Vocational Education" or "National Centers of Technology". This system was inspired by the criteria of the National Program of Quality, which includes process management, personnel management, leadership, strategic planning, focus on the client and on the market, and results and information management. It was made up of three progressive levels of compliance with the criteria which, in ascending order, define the categories: bronze, silver and gold.

The SENAI is the vocational training institution in Brazil for the industrial sector. It was established in 1942, and it is one of the oldest training institutions in Latin America. Today the SENAI has 417 fixed units and 317 mobile units.

The SENAI mission:

"To contribute to the strengthening of industry and the full and sustainable development of the country, promoting education for work and citizenship, technical and technological assistance, the production and distribution of information, and the adaptation, generation and diffusion of technology."

In the SENAI work towards total quality, in 1993 the CENATEC (National Technology Centers) national project set a model. Its central objective was that technical schools should implant a model of quality management. This was a project in the national ambit, and it had the following specific objectives:

- Establish a strategic alliance between the SENAI and the different social sectors linked to the productive sector, to raise the level of technological training in the country.
- Form a network of poles of competency in the different technological areas.
- Consolidate quality management in technical schools.
- Absorb, adapt and spread innovation and technology, leading to the continual improvement of the teaching-learning process.

The process which went ahead under this program was aimed at meeting the rigorous requirements of the national award of quality through the following stages:

- Conception via planning

  (strategic administration focused on planning)
- Implantation

  (total quality management)
- Evaluation

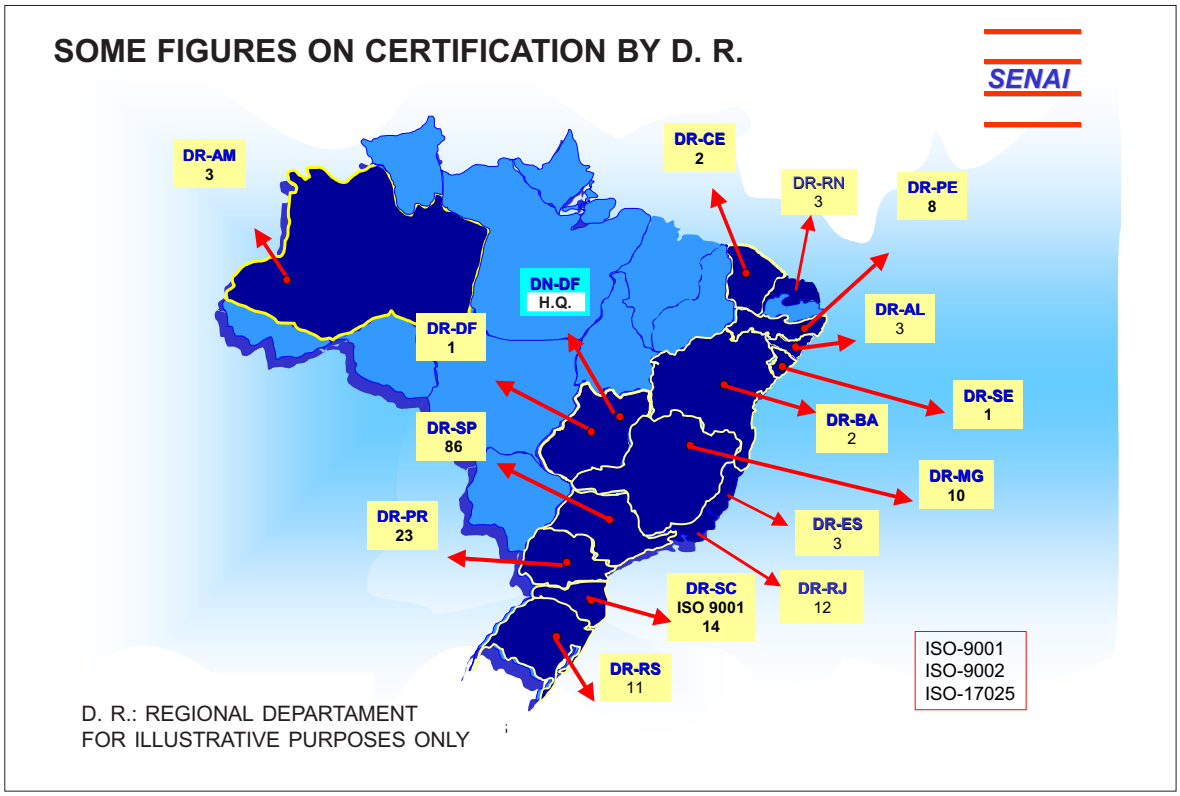
  (national quality award)

SENAI quality policy, regional department of Pernambuco: "To seek excellence in quality, based on the following principles:

- Continuous improvement of the services rendered
- Development of collaborators, stimulating continual growth
- Satisfaction and excellence in meeting the clients' needs"

Afterwards, in 1996, in the light of the success of the CENATEC process, the national department of the SENAI developed another project for total quality management in the learning schools. Its aim was to implant in the CEMEP (model centers of vocational education) the principles of quality oriented to training for work.

Since the mid 1990s, progress in the policy of institutional quality has created a favorable climate for a number of regional departments to undertake the process of quality certification. The figure below shows the different regional departments that have ISO 9000 certification:



Among the regional offices that have obtained quality certification are Alagoas (AL), Amazonas (AM), Bahía (BA), Ceará (CE), the Federal District (DF), Espíritu Santo (ES), Minas Gerais (MG), Paraná (PR), Pernambuco (PE), Río Grande do Sul (RGS), Río Grande do Norte (RGN), Santa Catarina (SC), Sao Paulo (SP) and Sergipe (SE). In total, SENAI has more than 180 certifications of quality. The majority are for training schools, others are for its laboratories, and still others for the head offices of the regional departments. Besides these, 35 certification process are under way.

It is worth noting that the different regional offices participate in the definition and establishment of a policy of quality in coordination with the actors in the economic activity of the state in question.

In this way, SENAI assembles different management tools so as to construct an organization which learns and is capable of day by day improvement in its processes to foster better training, with the ultimate goal of raising competitiveness and productivity of the Brazilian economy.

The National Rural Training Service (SENAR), in its administration in Minas Gerais (established in 1993), has quality of services rendered as one of its basic foundations. This is why it implanted the SENAR total quality program. In this, a number of methodologies were applied, including teamwork, strategic analysis, the 5 "S", the "quality coffee", quality panels, and the journal of quality.

The processes involved were registered and made available to everyone, and in this way it became an organization whose functioning was transparent. In 1999, SENAR-MG acquired ISO 9002 1994 certification. Currently the institution is preparing to receive the technical audit aimed at the 2000 version of ISO 9001 certification.

The **National Training and Employment Service (SENCE)** in Chile was the first public service in that country to obtain certification of quality of the ISO 9000 family. In January 2000, it received the certificate of the Bureau Veritas Quality International (BVQI), which accredited that the process of the constitution of technical training organizations in the metropolitan region "satisfies the requirements of the ISO 9002 quality standards".

In April 2003, the **National Training Service (SENA)** in Colombia obtained ISO 9001:2000 certification for three of its training centers in the Antioquia regional office. These were the National Construction Center, the National Wood Center, and the National Footwear and Leather Manufacturing Center. Prior to this, the sub management of planning in the same regional office had obtained the

ISO certificate. Within the framework of its strategic plan, the institution has initiated the process which will lead to the certification of its 114 training centers throughout the country, and its goal is to achieve this before 2006. The SENA also gives counseling and technical assistance to enterprises which apply for ISO certification.

The **National Training Institute (INA)** in Costa Rica, one of the first institutions to initiate the process of quality assurance, obtained ISO 9000 certification for its accreditation unit[9] in June 1998. Follow up audits were carried out in December of that year and in June 1999. This unit works mainly on verifying the suitability of the training offer of various outside institutions against the quality of the INA institute's own offer. An institutional policy of the INA reads: "Design and execute programs and projects which allow the assurance of the quality of the internal and external management of the services it offers to staff and users".

As an antecedent to the certification of its accreditation unit, the INA had previously obtained the best qualification out of 29 public institutions in Costa Rica, in an evaluation based on indicators carried out by the national evaluation system (SINE).

The **Technical Institute for Training and Productivity (INTECAP)** in Guatemala successfully undertook the work to obtain quality certification under the 2000 version of the ISO 9000 norm, and this led to recommendation for certification in November 2002. Included in the scope of the certified INTECAP quality management system are "Studies of labor markets, the design and development of training by labor competency services, training services certifiable by the traditional method developed in INTECAP centers and in companies, and also technical assistance services".

INTECAP is the vocational training institution which, by delegation of the State and with a contribution from the private sector, promotes the development of human resources and national productivity.

It went into operation on 19 May 1972, and its fundamental objective is to train workers and new manpower in various economic activities through vocational training events.

INTECAP trains people in the three typical occupational levels, executive, middle and operational, and also in three sectors of economic activity, farming, industry, and trade and services.

In the current context of developing technological innovation, increasing competitiveness, the globalization of productive economies, and the progressive increase in the flexibility of the labor market and of labor rotation, the INTECAP had to modernize to be able to cater adequately to the productive sector in the area of human resources competency.

A notable characteristic of the INTECAP experience is the fact that the certification of quality is part of a wide-ranging and successful process of institutional modernization which was begun at the end of 1998 with the backing of the management council. The plan for modernizing the institute consisted of the following:

- Definition of a document of bases for the modernization of the INTECAP;
- Establishment of bases for organic restructuring: organigrams on the level of unit, division and department;
- Schedule for initiating modernization.

The INTECAP vision: We are the leading vocational training institute for workers and human resources to be incorporated into the world of work.

We see the future of our institution, designing and developing training plans which have impact, and fostering productivity, in order to make a significant contribution to the development of the country.

We will develop these actions immediately, with quality and excellence, exceeding the expectations of our clients.

9 Awarded by INTECO and the AENOR (Spanish Standardization and Certification Association) in line with the standards of the ISO-9002 norm.

The modernization project incorporates the following orienting elements:

- Changes in the process, both of value and of support.
- Redefinition of the concepts of mission, vision and values.
- Redesign of the technical and administrative processes.
- Recognition of the importance of orienting the institution towards total quality.
- Design and implementation of a horizontal organizational structure.

Besides all this, the management of modernization revolves around seven sub processes:

1. Naming heads of divisions, units and departments, and also staff who, in line with the organic law, have to be appointed by the management council.
2. Preparation to establish a total quality culture.
3. Re-design of the main institutional processes.
4. Definition of the organizational structure and the pilot plan for its implementation.
5. The administration of human resources.
6. Regionalization.
7. The consolidation of institutional image.

In February 2000, the **Occupation Competency Standardization and Certification Council (CONOCER)** in Mexico was certified with the ISO 9001 by Lloyd's Register Quality Assurance (LRQA) in recognition of its adoption of efficient systems which demonstrate its capacity to assure the quality of its processes in the stages of the design, development, production and distribution of its products, and in the rendering of associated services.

Today, the CONOCER is thought of as the coordinator of a scheme whereby people can accede to continuing training processes based on standards that are set by agreement between the productive, labor and educational sectors. It is in itself a quality body which aims at improving the quality of the country's enterprises, workers and training institutions (www.conocer.org.mx).

In Peru, the **National Service of Occupational Training in Industry (SENATI)** has received the ISO 9001 certificate of quality. After a wide-ranging national effort, the institution obtained certification for its vocational training and preparation programs: dual learning, the qualification of workers in service, industrial technicians, industrial administrators, industrial teachers, technicians in engineering, continuing training, multimedia training, computers, and its work package. Also certified were the technical services of manufacturing and non destructive testing, and counseling and consultancy for small and middle sized enterprises, in its 41 area offices. In March 2003, SENATI obtained integrated certification of the quality system and ambiental system ISO 9001:2000 and 14001:1996, thus becoming the first institution in the region to achieve this for its ambiental policy management.

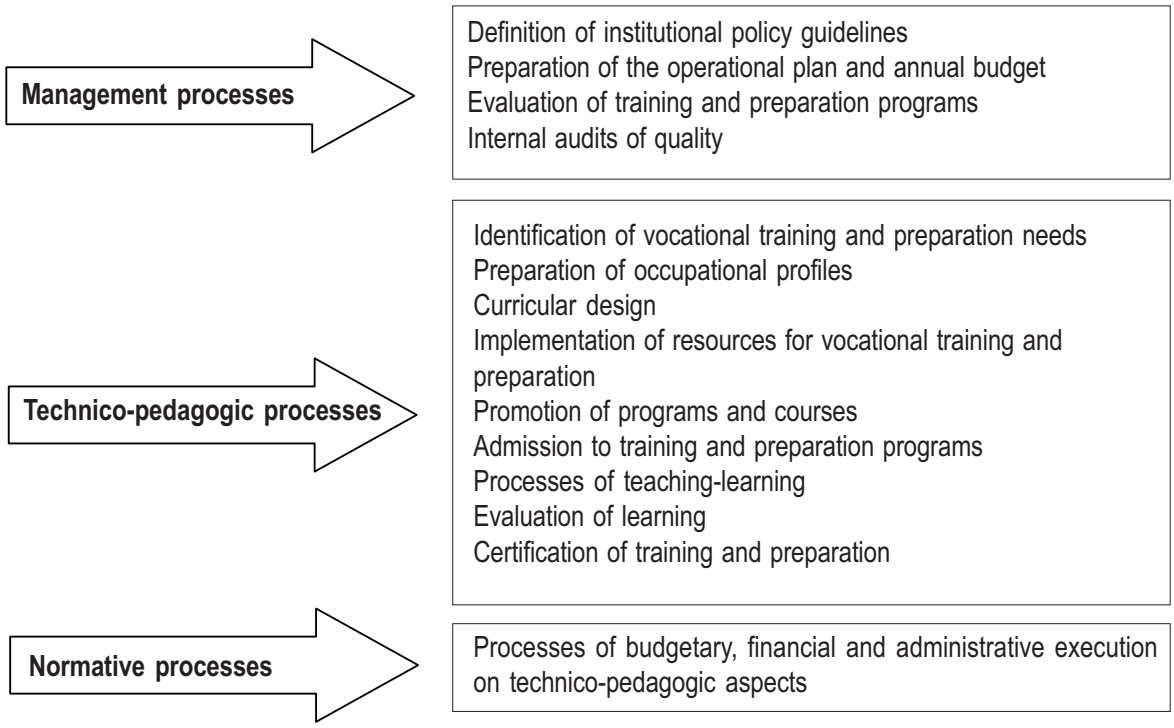
The road to ISO 9001 certification in the SENATI can be summed up in three great events. After institutional restructuring between 1993 and 1998:

- Process of ISO 9001 certification between July 1998 and December 1999
- Obtention of ISO 9001 certification in the year 2000
- ISO 9001 and ISO 14001 certification in 2003

The SENATI was created in 1961 at the initiative of the National Society of Industries, in circumstances which showed that traditional vocational training and technical education did not provide the qualifications needed for modern productive activity. After an intense process of change which began in 1993, the SENATI decided to implant a clear policy of quality, and apply for ISO certification. The certification process began in 1998, and achieved its first success in the year 2000 when certification of quality in conformity with the ISO 9001 norm was awarded.

SENATI defined the following groups of processes for documentation and certification:

INSTITUTIONAL PROCESSES IN SENATI QUALITY CERTIFICATION



The main steps which SENATI took to obtain certification were:

- Agreement of the National Council to implement the quality system
- Initial training of directors and heads about the ISO 9000 norm
- General training of all personnel using modular course design and a clear evaluation system
- Approval of the quality policy by the National Council
- Definition of SENATI products and clients by National Management
- Setting up of work groups to prepare and revise the documents of the system
- Training of internal auditors
- Approval of quality manual, and manual of organization and functions and general directives, by the National Council
- Approval by the National Director of the control directive of the system, quality plans and specific directives
- Internal audits in zonal headquarters
- Audit of pre-certification
- Audit of certification

The SENATI policy of quality:

SENATI's policy is to provide vocational training and preparation and technical services at a level of quality that exceeds the demands of our users.

One of the most demanding aspects of the road to quality assurance is the definition and specification of processes, and this is even more true when we consider that this is an institution that renders a training service. This has led to an interesting institutional discussion about the correct definition of the institution's products and clients.

REGIONAL OFFICES OF THE SENATI

Certification of the FORCEM quality system in Spain

Since the end of the 1990s, the FORCEM, the institution in charge of the subsystem of continuing training in Spain, has been promoting the process of defining its quality system. With this aim, the training of coordinators in areas related to the ISO 9002 norm has been undertaken. After preparing the work schedule and the relation of the procedures to be carried out, the work, which covered some 155 procedures, was begun. The work of coordinating and unifying criteria, and control over the progress of the project as a whole, was done in the department of procedures and quality, management of organization and systems.

In September 1998, given FORCEM's range and responsibility in the national ambit, the decision was taken to present its petition for this certificate to AENOR.

This was considered an ambitious project, practically all the organization's personnel participated in it, and in the end this was the main factor in the success of the initiative. In June 1999 it obtained the certificate of quality in line with the UNE-EN-ISO-9002 international norm.

2.2 BRIEF SURVEY ON QUALITY: MOTIVATIONS, BENEFITS, LESSONS LEARNED

As part of the preparation of this study, a brief survey of the institutions which obtained the certification of quality, and of some experts in the field, was carried out. The idea was to identify some of the main characteristics, the variables to be borne in mind and the lessons learned from the road to the certification of quality.

The views collected in the survey have been classified into six groups: motivations, suggestions for starting out, changes in organizational ambient and culture, the role of management, benefits, recommendations and challenges.

2.2.1. The main motivations

Among the collection of factors which prompt organizations to begin the process of the guarantee of quality there is much talk about the factor of competitiveness. As the SENAI in Rio Grande do Sul reported, it is usual for enterprises to seek ISO certification to improve their competitive position. For training institutions there seem to be a mixture of factors, among which improvement in processes, and the benefits which this causes in functioning, stand out. Also prominent was improvement of image. There follows a synthesis of the motivations that were mentioned most:

- To have a standard of quality in the design of courses
- Projection of the institution, improvement of its image, national and international recognition
- To accompany the evolution of quality management in line with the dynamic of enterprises
- To have a good quality institution with a philosophy of continuing improvement
- To show society the institution's capacity for quality management
- To have a tool for management
- The pressure of an increasing number of certified enterprises in its chain of providers
- To render a better service to clients and the workers participating in the programs
- The search for improvements in efficiency derived from the application of the eight principles of quality management
- Having clear and documented processes saves times and money
- To generate greater confidence and credibility in institutional services
- To guarantee that clients' needs are satisfied
- Better possibilities for personnel development
- Overhaul the technical unit with the standardization of processes
- To put institutional norms into practice

It is worth noting that the institutions that went through the certification process maintained a clear and open relation with their clients; both enterprises and participants. Besides this, they are conscious of the need to present an image of competitiveness and quality. The institutions have usually developed a wide base of norms, regulations and procedures. The answer given by the Antioquia regional office of the SENA emphasizes the applicability which is attained when processes are standardized and technical procedures overhauled.

2.2.2. Suggestions for starting out

The great variety of experiences yielded suggestions which range from strict adherence to the steps that are formally defined for obtaining certification to subjects like the appropriate sensitization of collaborators and the perception that this was an effort that would bring results in the middle term, as the head of the SENATI said. Some of the suggestions were as follows:

- To seek conviction and participation on the part of all personnel
- That management should have a clear perception of the process, the resources needed and the time required

- To bear in mind that this is a long term process
- To communicate to all levels of the institution how the process is being run
- To make the maximum use of the work of inter-departmental teams
- To develop a pilot project before starting with the whole institution
- To clearly designate who is in charge
- Mobilization for sensitizing all collaborators
- Agility in the standardization of institutional processes
- To consider the apparent incompatibility between the educational focus and the entrepreneurial focus of the norm
- To establish a policy and quality objectives

Agustín Ibarra, one of the consultants polled, gave his summing up in three suggestions, first, a systematic vision and a focus of administration by processes; second, the active and responsible participation of personnel; and third, the existence of good information systems and records so as to know clients better.

2.2.3. Changes caused in organizational ambient and culture

Organizational ambient and culture are the thermometers for measuring the real dimensions of the change. According to one of the persons polled, quality management causes a breakage of paradigms and of the traditional ways of thinking and acting. Another significant comment was that it is not a single and isolated effort which ends with certification, but a sustained change which leads to the creation of a quality culture. Also mentioned, in the answers given by the SENAR in Minas Gerais, was the need to "break" barriers and create work groups from different departments and functional areas of the institution. Some considerations about the changes in ambient and culture mentioned in the survey were:

- Participative, creative and innovative leadership which positively affects organizational ambient and culture
- Review of the traditional practices and patterns leads to improved work practices
- Develop a culture of consulting the documentation of processes
- Human resources management that is more connected with organizational objectives
- Less resistance to work in groups drawn from different areas
- Better attitude to clients' complaints
- The development of a group vision of the institution which supercedes the isolated vision of each individual about his own area of work

The experience of the SENAI in Sao Paulo is very illuminating. In their answer they insist on the development of a vision of macro processes. The probability of successful implantation increases as the relation and the interaction between different departments increases. In this interaction they also mention the group work of teachers and support personnel. Finally, there is the need to guarantee that all personnel shall have access to information about how the project is progressing, which leads to an information culture that is open and transparent.

2.2.4. Role of management in the process

In the survey, the head of INTECAP wrote "Actions are more eloquent than words". This message seems to sum up the role of management in the process. The word most used by the people polled was

"leadership". According to Agustín Ibarra, the role of management is of crucial importance since it is the decision of management and of the organs of government that has the most bearing on whether or not a quality model is adopted.

The main answers were as follows:

- Establish the policy and objectives of quality in the institution
- Exercise leadership which promotes the participation of all personnel
- Create and maintain a good internal ambient
- Explain the motivation of the institution clearly
- Convince the personnel
- Mobilize the resources to maintain the quality management system
- Communicate to the institution the importance of meeting clients' needs

2.2.5. Benefits

According to one person polled, in the 2000 version greater importance is given to resources management and the measurement of results. This will lead to better administrative practices and an improvement in efficiency. The SENATI answer is conclusive, it is simply that certification has allowed them to improve the quality of training. The benefits most reported by people in the survey were:

- Improvement in institutional image and credibility
- Planning, organization and control of vocational training activity
- Increase in the number of clients (students and enterprises)
- Client satisfaction. The measurement of client satisfaction
- Better perception of responsibilities
- Quality in training services
- Reduction in costs
- Confidence in the institution's products
- Less internal conflict and greater involvement between different areas
- Improvement in organizational climate

Among the benefits for society, the SENAR in Minas Gerais emphasized:

- Better guarantee of the objectives fixed by law
- Better possibilities of evaluating results and guaranteeing the correct application of resources
- Better guarantee of the use of the concepts of ethics, citizenship, sustainable production and reduction in ambiental impact

The group of benefits perceived by the SENAI in Sao Paulo are worth citing:

- Objectives and goals clearly defined
- Suitable ambient of learning-teaching
- Offer of educational products appropriate to the real needs of clients
- Systematic monitoring of client satisfaction
- Constant updating of training services
- Coherence in all the phases of the training process from planning and development to follow up of those who complete the course

- Shared vision at all levels of the institution
- Optimization of resources
- Better communication between departments

2.2.6. Recommendations about the process

Train, train and train. This seems to be the outstanding recommendation of those who have followed the road to quality certification. Train the coordinating team, train area coordinators, train staff; these are the indispensable actions in the process. According to the head of SENAI in Minas Gerais, all the processes require a high degree of maturity, and this maturity will have much more to do with the culture and the opportunities of training and working in a team.

- Have a well defined mission, vision and values, and fully convince all personnel
- Set up a management team made up of people who know the business of training well
- Plan the process as a project
- Choose the certifying body beforehand to create good communication and work dynamic
- Train the work teams
- Maintain the system and monitor its evolution
- Accelerate the standardization of processes
- The person responsible for the management of quality has to be someone with prestige, credibility, knowledge, and easy communication with the workers
- Insert the process as part of the improvement of the institution

The Antioquia regional office of the SENA suggested managing the process of implementation as a project with assigned resources, goals, achievement indicators, administrative structure and management. They also suggested that the quality project should be coordinated with institutional policies.

Besides this, perhaps conscious of the enormous effort that implementation demands, the SENAI in Sao Paulo included in one of its recommendations, “Celebrate the actual certification”.

2.2.7. Challenges that the quality management process poses

In some way this section sums up the lessons learned in the process. The vast majority of the challenges have to do with the internal organization of the institution. Attain conviction, reach everybody, involve the people, these seem to be a group of challenges for making progress. But, as we understand it, there are challenges in maintaining the system and even more in bringing about a real change in the institution’s culture and practices. Replies from the survey are as follows:

- Attain sufficient conviction on the part of all collaborators
- The rupture of paradigms and adaptation of the norm for an educational institution
- Define the concept of “client” in education
- Assume in a coordinated way the excessive normativeness of education
- Interpretation of the requirements of the ISO norm in the light of educational processes
- Obtain consensus for the standardization of operative procedures
- Get personnel to participate out of genuine interest
- Make the entrepreneurial and the educational focuses compatible in interpreting the norm

- Assimilate the changes that flow from implantation
- Overcome uncertainty caused by the changes
- Understand the norms as important management tools
- Develop a true "culture of quality" and change the traditional references and patterns

The SENATI reply summed up a key aspect in processes of change, "We have to have a system of quality in which the most important thing is people". This is well complemented with an institution that could be more flexible, detect needs and have the capacity to adapt.

Brief lessons from European experiences:

It is worth noting that in European experiences of the attempt to standardize there has been tension between the typical disaggregating of standardized descriptions and the need to have a practical, functioning process. This can be summed up very well in the idea of balancing intelligent pragmatism against the fundamentalism of standardization taken to an extreme. One should not become lost in the description of processes, making explanations over-complicated in an effort to achieve perfection.

Secondly, the character of public vocational training institutions raises the question of the public control of quality. National institutions have to demonstrate confidence in the reliability of their process and the quality of their results for entrepreneurs and workers. Very often, governments are sensitive to signs which give them greater certainty about institutional mechanisms for allocating resources and executing public training policies.

Quality management, and the consequent certification of the quality of training institutions, is a good tool for maximizing institutional capacity in a process of gathering and disseminating knowledge that is applicable to work. One aspect of this is the management of the quality of the process, and another is the quality of the performance of those who complete the courses, which is measured and verified in their labor competency. This second point is not unconnected with the main issue, but this is not the place to discuss it.

3. THREE STANDARDS OF COMPETENCY IN PERSPECTIVE

This section is included by way of an illustration. The aim is to give information that will clarify the types of standards which can be applied in quality management in the institutions and processes that have to do with vocational training. There is a brief analysis of three international norms. The first is the standard applied to institutional management (ISO 9000), and a summary of two proposals for adapting it to educational institutions. The second is the standard developed for the process of training personnel within an organization (ISO 10015). Third and last, there is the recently released standard for bodies that certify people (ISO 17024).

3.1 THE STANDARD FOR QUALITY MANAGEMENT

Among the norms issued by the ISO, the best known internationally is the ISO 9000 family. This group of norms describes the way to proceed with quality management and the establishment of the corresponding systems of quality and continuing improvement in an organization. For this, the ISO 9000:1994 was used, and currently there is the ISO 9000:2000. These norms center on processes, and are independent of the specific product or service which the organization in question deals with.

The norms of the ISO 9000 family describe requirements for the implantation of a model for quality management in an organization (see Annex 1). The 2000 version of this series of norms is also intended for application to the organization of services. This reduces the need to produce clarification norms that are specific to a branch of activity, as would be the case for institutions of education and training.

The quality management model of the ISO 9000 norms is aimed at attaining greater efficiency in processes and providing products and services which satisfy the client, thus increasing the organization's productivity and competitiveness.

As Baeza and Mertens[10] explain, unlike the 1994 version of the quality management system, which standardizes and assures quality through a static vision, the 2000 version is based on an integral and dynamic conceptualization of continuing improvement, directed at satisfying the client.

The aim of the 2000 version is that the organization should be able to provide a product or service in line with the client's requirements and the prevailing regulations, to satisfy the client, to avoid having unhappy customers, and to maintain the process of continuing improvement.

The 2000 version; ideal in the competence based of human resources management

A key aspect of the updating of the ISO 9000 norm is its full connection with the human resources administration system. In effect, within the requirements of the norm insofar as it concerns personnel in an organization, the need for the institution to have competent personnel is stipulated. The organization has to determine the competency profiles required by personnel, and evaluate the effectiveness of the training given for those functions which have a direct bearing on quality. The statement of the norm is a total change in the inclusion and treatment of human resources in the management of the system of quality.

The ISO norms and training:

The 2000 version of the ISO 9000 was more specific than the 1994 version as to the characteristics of the personnel who work in a certified enterprise. The 1994 version asked enterprises to "maintain documented procedures to identify training needs and to train all personnel who execute activities that affect quality. Personnel who execute tasks that are specifically assigned have to be qualified based on education, training and/or adequate experience in accordance with what is required." In the 2000 version, in the section on the management of resources it says, "Personnel engaged in work which affects the quality of the product must be competent, based on the appropriate education, training, skills and experience."

The inclusion of labor competency in the ISO 9001:2000 norm is an important step towards creating an integral vision of the concept of quality, and above all towards putting the development of human resources into practice.

This process makes for new complexity in the management of the ISO norms on quality. Treating and evaluating process is not the same as dealing with individuals. The challenge will be to not lose sight of the strategic focus, what and who the competencies model is for, maintaining a flexible model which does not treat human resources as a block but as many individuals with their own needs for development and objectives that have to be made to coincide with those of the company.

As INTECAP[11] points out, "the 2000 version includes fundamental aspects of human resources management to be borne in mind, like the involvement of personnel and the physical and human condition of the work environment. It places the integrated labor competency in the different subsystems which make up the effective management of human resources in the organization".

The new version of the norm includes:

1. The identification of competency profiles
2. The evaluation of the effectiveness of training
3. Coordination with other sub systems of human resources management
4. The selection and assigning of personnel by demonstrated competency

[10] In: The ISO 9000 Norm and Labor Competency. Baeza, Mertens. CONOCER. 2000.
[11] INTECAP. The Management of Human Resources by Competencies. 2001.

5. Training oriented to developing competencies
6. Making sure that the personnel are conscious of the importance and relevance of their activities and of how they contribute to quality objectives
7. Keeping up to date records of personnel education, training, qualifications and experience

A specific norm for the training process?

The 2000 version of the ISO 9000 was designed with the intention of facilitating its application in organizations in other sectors that are different from industry; the training institutions which have applied this standard have had to go through the process of seeking equivalents for the different terms used in the organizational ambient, such as "client" and "provider". In the training institutions that went through the certification process, an interesting discussion has arisen about the definition of who the client is. Is it the participant or is it the entrepreneur? And what is the product? Is it the training program, or is it the trained and certified worker?

Towards an ISO 9000 in educational institutions:

In October 2001 in Birmingham, England, during the meeting of the 176 Technical Committee, a group of Mexican organizations[1] took the initiative of proposing a project for the preparation of a voluntary guide which would facilitate the application of the ISO 9001 norm in organizations in the educational sector, at all levels and modalities.

Various countries subsequently joined in, and this led to later approval, by the Technical Council of the ISO, of the IWA-2 project, "The application of ISO 9001:2000 in education", which was coordinated by Mexico. The mechanism for reaching international agreement is a workshop (International Workshop Agreement - IWA), set up by the ISO.

The IWA 2 guide aims at helping Mexico and other countries in their programs to improve educational quality.

Modernization of Technical Education and Training Program of the Secretary of Public Education. PMETyC Mexico. 2003.

Besides the fact that this answer has always been expressed in the respective documents of the quality system of the certified institutions, two external examples have been selected to show some of the efforts at adaptation. One is an adaptation of the 94 version[12] of the ISO 9000 that was prepared in New Zealand, and its main characteristics are described in Annex 2 at the end of this study. The other, a more recent adaptation, was prepared by the IWA-2 international workshop of the ISO, set up at the initiative of the PMETyC of Mexico. This was prepared as a guide based on the ISO 9004:2000 norm. Its aim is to "provide instructions for the voluntary application of the ISO 9001:2000 in educational organizations which render educational services at all levels. These instructions do not add to, change or modify the requirements of the ISO 9001:2000, and they are not intended for use in contracts, the evaluation of conformity, or for certification purposes." (See Annex 3). The project is now in its international phase, and it is coordinated by the administrative unit of the PMETyC.

3.2 STANDARD FOR THE PERSONNEL TRAINING AND DEVELOPMENT PROCESS

This ISO 10015 norm applies to the human resources management process in an organization, and in particular to the training and development phase. It is not used for certification, its purpose is to give instructions about training. Its starting point is the concept that an organization may find it necessary to analyze its competency needs because of a context in which the market, technology, innovation, and the increase in the demands and expectations of clients are constantly evolving.

[12] This is the Guide to the Norm of the AS/NZS ISO 9001:1994 system of quality for education and training. Australia Standards, New Zealand Standards. 1995.

In such a situation, the training of an organization's personnel can be an efficient option for coping with this changing context, it allows the gap in the organization between the competencies required and those in existence to be closed. This norm defines training as a process which yields results and develops the knowledge, the know how and the behavior necessary to meet the demands. In the norm, competency is understood as the activation of the knowledge, know how and behavior in the situation of execution.

The training process would therefore make it possible for an organization to improve its capacities and to attain its quality objectives, producing and developing competencies. Training, understood as a factor in continuing progress, appears as an efficient and productive investment for the organization. See Annex 4: Document: The management of quality. Guidelines for training. Project of the ISO/DIS 10015 international norm.

3.3 THE CERTIFICATION OF CERTIFICATION BODIES

The ISO 17024 norm was issued this year. It was prepared from the EN 45013[13] norm, which has been applied in Europe since 1989. Although the ISO 9000 norms are not applicable in the recognition of individual competencies, the radius of action of the application of the logic of quality certification has been widening to include bodies which deal with the certification of competencies. In fact, the certification of people has been a field of work in specialized centers in Europe and it has spread, particularly with the generalization of the model of national norms found in England, Scotland, Wales and Ireland.

The 45013 norm is used in Europe with special emphasis on the recognition of competencies acquired as the result of experience or from nonformal training. It is applied to bodies that certify such competencies regardless of how they were acquired.

The ISO 17024 specifies the requirements to assure that the certification bodies which operate the certification of persons run their operations in a consistent, comparable and trustworthy way[14]. This norm is not concerned with the quality management system that is applied to the body in question, that is to say, it does not substitute eventual ISO 9000 certification.

Some terms of the ISO 17024 norm:

Certification process: All activity by which an organization establishes that a person meets competency requirements. It includes evaluation, the decision about certification and re-certification, and the use of certificates and logotypes/trademarks.

Arrangement of certification: Requirements for certification related to a specific category of persons to whom the same group of particular standards and the same certification procedure apply.

Certification system: Group of procedures and resources to carry out the process of certification which lead to the certification of competency including maintenance.

Competency: Demonstrated ability to apply knowledge and/or skills and demonstrate relevant personal attributes defined in the arrangement of certification.

Evaluation: Process which examines whether a person meets the requirements for arranging certification and leads to the decision to certify.

Examination: Mechanism, part of the evaluation which measures the competency of a candidate using one or more written, oral or practical means.

Qualification: Demonstration of the attributes of

The aim of the norm is that certifying bodies should generate confidence among parties interested in the certificate through its independence and impartiality with regard to the candidates and the persons certified, and it requires them to take the necessary measures to ensure ethical operation.

[13] This is a voluntary norm issued by the European Standards Institution. Its members are national organizations in charge of accreditation in 18 European countries: Austria, Belgium, Denmark, Finland, France, Germany, Greece, Holland, Ireland, Iceland, Italy, Luxemburg, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

[14] Certification for persons -ISO/IEC DIS 17024. General requirements for bodies operating certification of persons. ISO Bulletin. October 2002.

One aspect that ought to be highlighted because it usually generates discussion in the institutional model of certification is the express mention of the norm that the certifying body shall not be able to offer or provide or help others to prepare training services, unless it can show that the training is independent of the evaluation and certification of persons, and ensure that its impartiality, objectivity and confidentiality are not compromised.

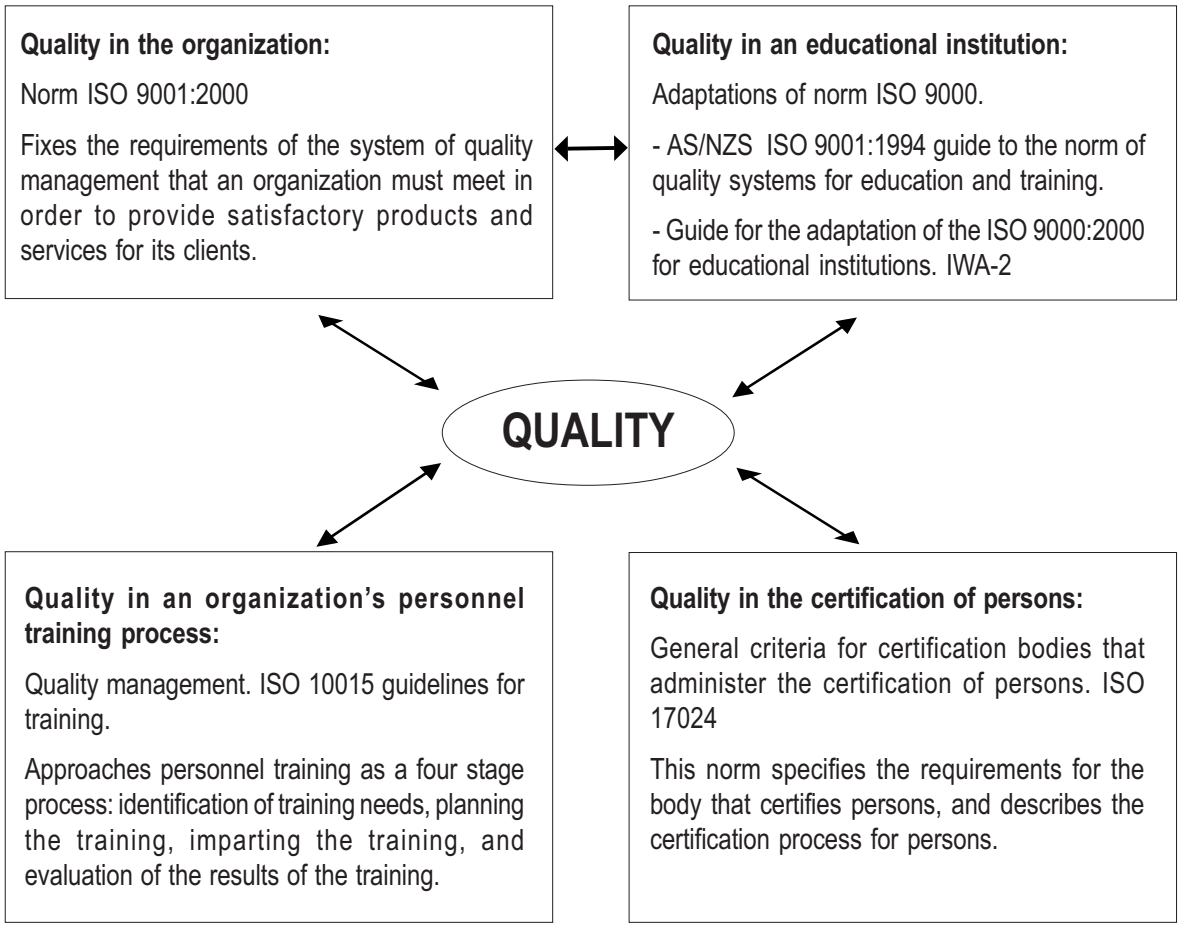
In 1998, research in the European Union concluded that, "This norm is not being widely used, but it seemed to be a useful tool for making ulterior progress in guaranteeing the quality of the process of competency certification. It would also be able to contribute to the construction of a European accreditation system".

This application of the norm gives rise to another interesting aspect in the "guarantee of quality" which underlies the utilization of occupational standards or so-called "labor competency standards". The quality scheme in the application of these standards centers on the certification of competencies. A certificate of competencies issued against a previously approved standard is a guarantee of the quality of the holder's performance. The mechanisms for the certification of competencies, and the ways in which the standards are constructed and put into practice, is a subject which could generate wide discussion and documentation.

A general description of the content of this norm is available in Annex 5: "General criteria for certification bodies which administer the certification of persons". Content of the ISO/IEC DIS 17024 norm.

3.4 BY WAY OF A CONCLUSION

The panoramic view of standards presented in the sections of this study shows us a wide range of opinions for quality management in different aspects which touch on training. In the effort towards implementation, it is important to consider its utility for the institution and the applicability of the standard, as well as its insertion in the institution's ambient and culture.



The quality model proposed by the ISO 9000:2000 is based on management by processes, and gives importance to the satisfaction of the client and a good degree of enterprise-client relationship. It clearly touches on the need to train personnel in the organizations where implantation is intended. This norm does not specify the training required, and nor does it provide details for identifying training needs. However, the "Quality management. Guidelines for training" ISO 10015 norm provides a series of guidelines for the training of personnel. This norm proposes a process in four broad stages: define training needs, design the training, promote the training, and evaluate the results of the training.

The training of personnel in an organization appears as an option for improving its capacities and achieve its objectives in the area of quality. The project of "General criteria for certification bodies which administer the certification of persons" norm (ISO 17024) indicates the requirements that the certification bodies that administer the certification of persons have to meet. It could even be a good complement for institutions that provide education and are interested in the ISO 9000 quality model, because it gives clients of these organizations criteria directly related to the certification of competencies. This applies especially in institutional models in which there are bodies that provide services of evaluation and certification of persons, or even in the institutions' centers themselves.

This same norm can be usefully applied in the certification of the personnel of an organization who have been trained in accordance with the criteria of the project of the "Quality management. Guidelines for training" norm (ISO 10015), and also for people who have not received a training course and derive their competencies from experience. The certification of competencies is usually formal recognition, public and temporary, of the labor capacities which the person has. It is important to emphasize that the focus of the certification of persons includes the evaluation of the competencies which a candidate has regardless of the way that he might have acquired them.

Quality management means creating a series of policies and actions backed by management which facilitate the mobilization of the VTI towards a culture of quality beyond the mere realization of the work of certification in itself. This is a crucial point in adopting quality management. The work goes beyond the documentation of processes, it means a commitment from management and throughout the organization in the search for a new way of doing things to attain objectives at the first attempt.

Training is among the needs of organizations which adopt quality management. This reinforces the role of the VTIs as providers of training services and emphasizes the need that they should do this with a good level of quality.

A point on which more and more work is being done is the adaptation of the ISO 9000 norm for educational institutions. In this study, two related experiences were presented, but the experiences that the certified institutions had in the preparation of their respective quality manuals must also be considered. The quality manuals prepared in the certified institutions undoubtedly constitute a vast accumulation of knowledge applied to training. In them, there is a lot of institutional knowledge, the definition of processes, of people involved, inter-relations, inputs and products. This effort is what is put at the service of all the institution's collaborators to facilitate interaction and work well done. The utilization and the launch of all the manuals and documented procedures, and their continuing improvement, are an essential part of the management of quality.

ANNEX 1

THE INTERNATIONAL STANDARDS ORGANIZATION (ISO) AND THE ISO 9000[15] SERIES OF NORMS

The ISO prepares international norms and guides reconciling the interests of users, manufacturers, scientific communities and governments. These norms cover all fields except for standardization in electrical technology and electronics, which comes under the International Electro-Technical Commission (IEC).

It also establishes guides and norms for the evaluation of conformity. Through the Committee of Evaluation and Conformity (CASCO), the ISO prepares the requirements for the certification of products and systems as well as for the accreditation of bodies that certify systems, personnel, products, and for the accreditation of calibration and testing laboratories.

Among the norms published by the ISO, the best known internationally is the ISO 9000 family of norms. This group of norms describes how to carry out quality management and establish the corresponding quality systems and continuing improvement in an organization.

The International Standards Organization (ISO) is a world federation of national standardization bodies, its objective is to promote standardization and related activities, to facilitate the exchange of goods and services, and to stimulate cooperation in the scientific, economic, technological and intellectual areas, all on a world level.

www.iso.org

The first version of the ISO 9000 norms were published in 1987. These norms are a reflection of a worldwide consensus of specialists in this field. Technical Committee No. 176 (ISO/TC "Quality management and quality assurance"), which was created within the ISO in 1979, is in charge of preparing generic norms with worldwide application.

The revision of the ISO 9000 norms is based on the following eight principles for quality management laid down in the ISO 9000 and 9004 norms:

- Organization directed to the client
- Leadership
- Participation of personnel
- Focus based on processes
- Systems focus for management
- Continuing improvement
- Decision-making focus based on the facts
- Mutually beneficial relations with the provider

In 1994, the first version of the norms (ISO 9000:1994) were completed, and then there was a second version which was published in December 2000 (ISO 9000:2000). In this revision, it was important to be sure that the norms could be applied in organizations of all kinds and of all sizes. Besides this, it was an attempt to avoid the propagation of systems of norms for quality management in specific sectors.

Beyond this, the ISO/TC 176 Committee prepares specific management programs based on the ISO 9000:2000 norms for some sectors which need them. For the revision, other initiatives were borne in mind, like the bases for national quality awards or total quality management programs.

[15] In: "ISO 9000:2000 Systems for the management of quality" UNIT. Montevideo. 2002.

The focus centered on processes:

This is perhaps the most important characteristic of the ISO 9000 norm. Within the family of norms, the ISO 9004-2000 (Systems of quality management. Instructions for the improvement of performance) clearly specifies this focus in the following way:

"This norm promotes the adoption of a focus on processes to develop, implement and improve the efficacy and efficiency of a quality management system, to give satisfaction to all interested parties through meeting the requirements of the interested parties.

So that an organization may function with efficacy and efficiency, it has to identify and manage numerous related activities. An activity which employs resources and manages them to facilitate the transformation of inputs into results is considered to be a process. The results of a process very often directly constitute the inputs of subsequent process.

The application of a process system in an organization, along with the identification, the interaction and management of these processes, can be called a "focus on processes".

One advantage of this focus on processes is the control it gives, when the process is actually running, over the links between the individual processes within a system of processes, as well as over their combination and interaction.

When this focus is employed in a quality management system, it emphasizes the importance of the following:

a) the understanding and satisfaction of the requirements,

b) the need to consider the processes in terms of the value they contribute,

c) the obtention of results based on the performance and the efficacy of the processes, and

d) the continuing improvement of the processes based on objective measurements."

The ISO 9000:2000 series of norms is made up of the following:

- the ISO 9000:2000 norm (Quality management systems. Foundations and vocabulary.), which substitutes the ISO 8402 norm (Vocabulary) and part of the 9000-1:1994 norm (Directives for implanting systems).
- the ISO 9001:2000 norm (Quality management systems. Requirements.), which is used for system certification. It describes the requirements of the quality management system which the organization must satisfy to provide a satisfactory product to its clients. This norms replaces the ISO 9001:1994, ISO 9002:1994 and ISO 9003:1994 norms.
- the ISO 9004:2000 norm (Quality management systems. Directives for the improvement of performance) gives instructions but does not describe requirements, so it is not used for certification. This norm is aimed at improving the functioning of the organization and the satisfaction of all interested parties. This norm replaces the ISO 9004-1/2/3/4:1994 norms.
- the ISO 19011 norm (Directives for ambiental and quality audits) which is being studied and which has not yet been published, will substitute the current ISO 10011 (Quality audits) and ISO 14010/11/12 (Ambiental audits) norms.

ANNEX 2

"Guide for quality systems. Part 5: Guide to the AS/NZS ISO 9001:1994 quality systems norm for education and training". [16]

The aim of this norm is to guide teaching and training bodies to develop and implant a quality system based on the ISO 9000 series of norms. This guide is not intended to fix requirements or add to or modify the requirements described in the norms. It is intended to facilitate the interpretation of the ISO 9000 norms in teaching and training institutions. It should not be understood as a supplementary norm to the ISO 9000.

For each requirement in the ISO 9001 norm, this guide facilitates the interpretation of certain aspects, sometimes giving generic explanations and in other cases giving specific explanations and exemplifications linked to training institutions.

ISO 9001:1994	ISO 9001:2000	Guide to quality systems for education and training institutions (Australia-New Zealand)
Supplier: The organization which supplies a product to a client.	**Supplier:** The person or organization which supplies a product.	**Training supplier:** A primary school, a secondary school, a university, a training center. A department or section of a secondary school, of a university, of a training center. A training unit in an enterprise or in a government department.
Client: The receiver of the product which the supplier supplies.	**Client:** The person or organization to whom a product is supplied.	**Client:** A student. Parents of students or an employer. An enterprise or body with which there is a contract of research, of consultancy or a training. An internal client (within the supplier's organization). A government, a regulatory body, an accreditation body or similar entity. A relevant social group of citizens, of parents, or society as a whole.
Product: The result of processes or activities.	**Product:** The result of a process.	**Product:** Improvement in skills, knowledge, understanding and values. Provide an educational ambient, a study plan or other resources, a service to the community to improve skills, knowledge, understanding and values. Results of research (here the client is society as a whole).

[2] This is a joint Australia and New Zealand norm prepared by the technical committee group QR/2, Quality of Service. It was published on 5 July 1995.

ANNEX 3

Terms and definitions in educational organizations in the "Guide for the application of the ISO 9000- 2000 norm proposed by the IWA-2"

ISO 9000-2000		IWA-2 Proposal
Client	Organization (3.3.2) or individual who receives a product (3.4.2)	A client can be: **Consumer**, in education or training it is usually the student. **Client or buyer,** in education or training it is generally the person or body which finances the student, and it may be the student himself. **Final user**, in education or training, it is generally the person or organization which benefits from the education of the student.
Interested party	Person or group who have an interest in the performance or success of an organization	An interested party can be a client, an association of parents, other related educational organizations, or society. A group can be an organization, part of an organization, or more than one organization.
Process	An activity which employs resources and which manages them to facilitate the transformation of inputs into results	Process which results in an educational product. Educational processes cover different types of learning activity such as training, adult education, university education, primary and secondary education.
Educational product		Product related to education. An educational product generally involves the provision of a service which includes the intellectual information software, and in some way the software of a computer or the documents based on the hardware which help in the transfer and retention of information for continuing reference.
Educational organization		Organizational which supplies an educational product.
Educator		Person who supplies an educational product to students. Educators are referred to by different terms which vary from one country to another and according to the hierarchy of educational levels. The terms include teacher, instructor, facilitator or professor.

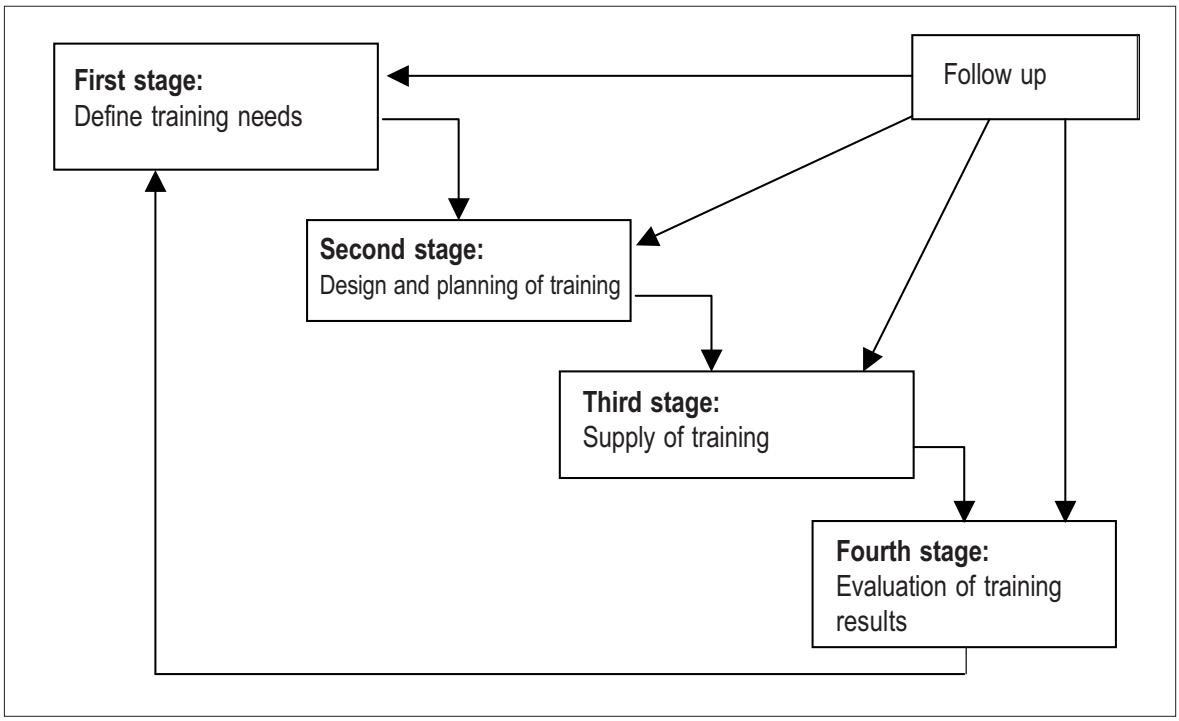
ANNEX 4

Quality management. Guideline directives for training. ISO 10015.

This document, published by AFNOR in July 1999, reproduces the ISO/DIS 10015[17] international norm project. This norm project is being prepared by the ISO/TC 176 "Management and assurance" technical committee, sub committee ISO/SC 3 "Maintenance techniques".

General concept: This document defines guideline directives to help organizations and their personnel to identify and analyze their training needs, to conceive, plan and carry out the training, to evaluate the results, and also how to run and improve the training process so as to attain the objectives in question.

Process: The 10015 norm project treats training as a four stage process.



In this norm project, the range, normative references, terms and definitions are defined, the outlines of the directives for personnel training in an organization (training understood as a four stage process), the purchase of training, and the involvement of the personnel are described, and lastly the four stages of the training process are detailed:

[1] This standard was released in 1999.

The four stages of the training process: (ISO 10015)

First stage: Define training needs.

The body's training needs are defined, the demand for competencies are defined in writing, there is a review of all the documents identifying existing and required competencies, the gaps between these are defined, the solutions for closing these gaps are identified, and if training is chosen as a solution the training needs are specified in writing.

Second stage: Design and planning of training.

The existing obstacles to the training process are defined, both those that will be borne in mind in the definition of training methods that can meet the organization's needs, and criteria for their selection. The training plan is specified so the organization's needs, training needs and the objectives which define what the personnel will be capable of doing after training are clear. A training provider is selected.

Third stage: Resources for training.

The training provider carries out all the activities connected to the provision of training, in compliance with the specifications in the training plan. As well as making the necessary supplies available to the training provider, the organization can, to define and facilitate the training, help the trainer and student, besides supervising the quality of the training, and in this can give help before, during and after the training action.

Fourth stage: Evaluation of the results of personnel training.

The objective is to evaluate whether the training made the obtention of the organization's objectives and those of the training mechanism possible. The data are collected and an evaluation report is made. Points of discrepancy may require pre-established corrective action.

Follow up and improvement of the personnel training process.

Make sure that the training process, which is part of the organization's quality system, is managed and run keeping the entity's training demands in mind. This means reviewing the records of all the four stages of the process to define discrepancies as well as preventive and corrective action These records can serve to validate the training process, and to formulate recommendations for improvement.

This norm project (ISO/DIS 10015) does not add to or modify the requirements of the ISO 9000 norms. It is a guide to facilitate the interpretation and application of the aspects included in the requirements of the ISO 9000 norms that are linked to education and training. The project sets out directives for the development, initiation, maintenance and improvement of the training strategies and mechanisms that are directly linked to the quality of the products supplied by an entity. It can be applied to any kind of organization, such as educational organizations, to meet the training needs of its own personnel.

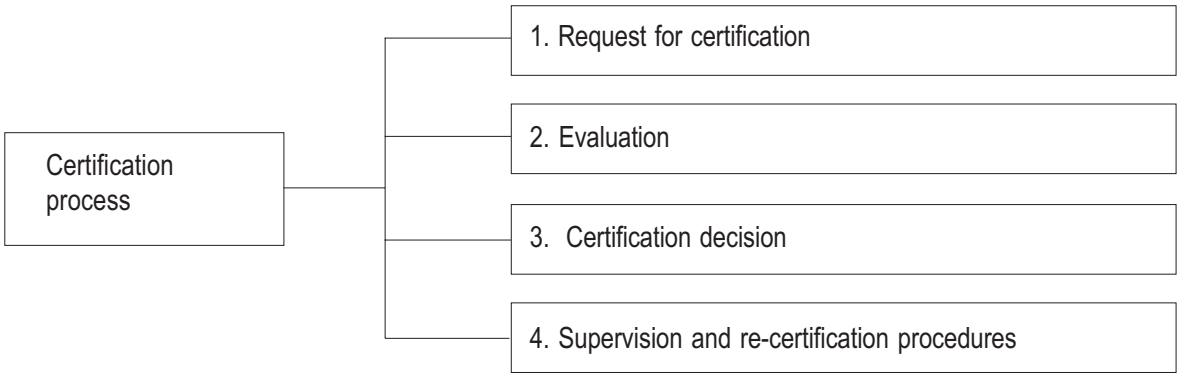
ANNEX 5

"General criteria for certification bodies which administer the certification of persons", ISO/IEC DIS 17024[18] norm project

This international norm specifies the requirements for the body which certifies persons against specific requirements, ensuring that the certification bodies which manage certification schemes for persons operate in a trustworthy and consistent way. These requirements include the importance of ensuring that the personnel of the certification bodies guarantee impartiality in their functions. At the same time they describe the development and maintenance of a certification scheme for persons. This scheme is a management system which allows the certification process to be carried out.

The certification process is a process by which a certification body certifies that a person satisfies previously specified competency requirements. The process leads to recognition that is formal and temporary of the labor capacities that the person has, regardless of how these were acquired.

According to this norm, the certification process is made up of the following stages:



Summary of the stages in this norm project:

- In the "Request for certification" stage, the certifying body shall provide the applicant with a detailed and updated description of the certification process for each certification scheme and with a specification of the requirements for certification, and also with a specification of the rights and obligations of the person certified. Lastly, the body shall require the applicant to fill in and sign an application in line with the criteria specified in the norm project. The certification body ensures that the personal data and the certificates presented shall not influence evaluation.

- In the "Evaluation" stage, the certification body shall check the request to ensure that that it is all in order, both as regards the capacity of the body to award the certificate solicited, and as regards the training required of the applicant for this certification. It must specify the criteria for planning and structuring the examinations which are part of the evaluation. It describes the way in which the

[18] Prepared by ISO/CASCO WG 17. It is a revision of the EN 45013:1989.

certification body shall evaluate the skills and aptitudes of the candidates in line with the requirements of the certification scheme, and specify that the certification body shall adopt reporting procedures which ensure that the performance and the results of all evaluations are documented in the appropriate way.

- The “Decision about the certification of a candidate” is taken by the certification body based on the data collected during the certification process. Those who take this decision must not have participated in the evaluation or training of the candidate. The certification body provides the certificate, and this remains the property of the body. The format and content of the certificate is described, and the document must be signed or authorized by the responsible authority in the body.

- In “Re-certification supervision and procedure” the certification body shall specify the requirements for supervision and re-certification in line with the normative documents, ensuring that the person certified meets the prevailing certification requirements. This body shall establish procedures and conditions for the maintenance of the certification in line with the certification scheme.

The certification body provides a certification logotype or mark. The certification body shall document the conditions of use of the certificates and logotypes and shall manage the use and representation rights. The certification body shall require the person to sign an agreement about certain specific aspects in this norm project. Lastly, it shall specify the measures which shall be taken in case of improper reference to the certification or improper use of the certificates or logotypes.

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