LABOUR COMPETENCE: EMERGENCE, ANALYTICAL FRAMEWORKS AND INSTITUTIONAL MODELS

Herramientas para la transformación

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Leonard Mertens

Labour competence:

emergence, analytical frameworks and institutional models

With special reference to Latin America

International Labour Office

POLFORM CINTERFOR

conocer

First edition: Montevideo, 1999

ISBN 92-9088-094-4

Mertens, Leonard
Labour competence: emergence, analytical frameworks and institutional models. Montevideo: Cinterfor, 1999.
119 p. (herramientas para la transformación, 3)

Bibliografía: p.113-119
Título original: Competencia laboral: sistemas, surgimiento y modelos
ISBN 92-9088-094-4

/ FORMACIÓN PROFESIONAL / / COMPETENCIA / / MERCADO DE TRABAJO / / POLÍTICA DE FORMACIÓN / / NECESIDAD DE FORMACIÓN / / PUB CINTERFOR /

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Hecho el depósito legal núm. 312.459/99 Impreso en los talleres gráficos de Cinterfor/OIT

Preface

The competence-based approach to human resource development is attracting more and more attention. The notion of competence is focused on the practical application of capabilities, and not only on formal qualifications which may or may not be valuable in the workplace. It is therefore much closer to the immediate needs of firms and workers, and much more deeply embedded in the organization of the firm and the ways in which skills are used in production. Firms which have to adjust to ever-more stringent quality standards, to rapid changes in competitive conditions in global markets, to technological change and to constant cost pressures, are more and more dependent on a capable and productive workforce, able to respond to changing needs. At the same time, workers need more than preemployment qualifications if they are to face a labour market in which demands for skills and abilities change rapidly and unpredictably. A focus on competencies offers a possible answer for both. But there is by no means a consensus on the value of this approach, nor on its methodological and practical ramifications. Competencies often seem to be relative rather than absolute, because they are so dependent on industrial organization. Their measurement and certification pose severe problems. And their value clearly varies from sector to sector, from occupation to occupation.

This monograph by Leonard Mertens provides a valuable contribution to the debate. Based in large part on experience in Latin America, where the significance of a competence-based approach was recognized earlier than in most other parts of the world, it offers both theoretical reflection, a review of the relevant literature, and impirical examples mainly derived from a large ILO project on technological change and the labour market in six Latin American countries. It reflects debates at an international seminar on “Training based on labour

competence: current situation and perspectives", held in Guanajuato, Mexico in May 1996. The proceedings of the seminar have been published by CINTERFOR and POLFORM, in Spanish, as *Formación basada en competencia laboral (Montevideo 1997)*.

Originally published in Spanish, this English edition now makes available this experience to a wider public. I would like to acknowledge the considerable contributions to this work of CINTERFOR, which has promoted the competence-based approach over the years and supported this monograph in particular, and of María Angélica Ducci, my predecessor as Chief of POLFORM, who took the initiative to support the preparation of an English version of the text.

Gerry Rodgers
Chief
Training Policies and Systems Branch
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ILO, Geneva

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Introduction

The concept of labour competence emerged in the 1980s in certain industrialized countries, particularly in those which were finding it difficult to link the training system to the needs of manufacturing industry. The problems experienced in these countries were not only quantitative; in fact they were mainly qualitative. The traditional systems of education and training did not correspond to the times. The response was the notion of labour competence, which takes an integral view of training, designing programmes to connect the world of work and society in general with the world of education and training.

The same problems also arise in developing countries, where they are probably more serious and persistent, and where fewer resources are available for education. In these countries a system of labour competence would appear to be an attractive way of moving training and education in a direction that will achieve a better balance between the needs of individuals, firms and society in general.

Before presenting it as a possible solution to the problems and challenges that developing countries, particularly in Latin America, face in terms of training, it is worth asking how labour competence is linked to world trends in competitivity, productivity and innovation, as well as to workers' expectations at enterprise level. Other fundamental questions are: what methodological and institutional models of competence are already being applied and what are their respective advantages and disadvantages?

Without pretending to an exhaustive analysis of the subject nor the presentation of definite conclusions, the aim of the present study is to contribute to the debate by commenting on the characteristics of labour competence and evaluating its effect on the labour market.

The first chapter examines the internal labour market of the firm, and the second considers whether labour competence could be an answer to challenges in the external labour market.

Labour competence is not a unique model, but covers a variety of interpretations and approximations, with their implications for the social partners in production. Chapter 3 analyses the different methodological trends with respect to labour competence and their advantages and disadvantages. The final chapter discusses institutional models which are currently practised in various countries, commenting on their advantages and disadvantages. In the conclusion, the critical factors identified throughout the study are recapitulated.

Many of the proposals set forth have their origin in meetings organized by the Mexican Council for Standardization and Certification of Labour Competence (CONOCER), as well as in discussions with personnel in the Department of Training and Productivity of the Mexican Labour and Social Security Ministry, especially in the Integral Quality and Modernization Programme (CIMO). Most of the important bibliographical references and quotations come from these institutions, from the Training Policies and Systems Branch of the ILO and from Cinterfor. Cinterfor also contributed some of the content and provided editorial assistance.

This document was prepared at the request of the Training Policies and Systems Branch (POLFORM) of the ILO and of Cinterfor / ILO.

Comments received from Pedro Daniel Weinberg, Agustin Ibarra, Anselmo Garcia, Andres Hernandez and Roberto Wilde are greatly appreciated.

I

The changing modalities of production and the emergence of labour competence at enterprise level

The concept of labour competence has emerged in various industrialized and developing countries as a basis for training policies and for regulating the internal and external labour market of firms. The concept is directly related to the changing modalities of production which began to appear in the early 1980s. The relationship can be seen in several aspects of the new approach to production: i) the creation of competitive advantages in a global market place; ii) the dynamics of technological innovation and the organization of work; iii) the management of human resources, and iv) the perspectives of the social partners.

In this chapter we will analyse the relationship between labour competence and each of these dimensions of production, although in practice these relationships cannot be separated out.

1. Dynamics of Competitivity and Labour Competence

The changes which firms are going through cannot easily be characterized. There is a consensus amongst researchers that the world in which businesses evolve today is increasingly competitive, with more firms trying to increase their share of the global market. There is also a consensus about the demand for higher quality products and services, so that companies have to focus more on client needs, without overlooking the criterion of low prices, and therefore the need to minimize costs.

The trend towards high quality and low cost was initially led by Japanese firms, which had pioneered new production methods termed

"slim" or "lean production". The principles and techniques of lean production, based on continuous improvement of the whole process, broke the relatively static framework of quality norms and efficiency which had previously governed production. As a result of globalization, these practices spread rapidly amongst "Western" firms, which imitated or adapted them.

By the beginning of the 1990s most leading world firms had introduced lean production, which had thus ceased to generate a competitive advantage in the market. On the one hand this strategy has a natural limit,[1] and on the other hand, competing firms followed the same strategy, reducing the possibility of getting ahead in the market by introducing better techniques: *"the old (sic) strategies seem to have reached their limits and now there is no reference or clear example to follow"* (De Meyer, 1992). The problem can be formulated as follows: how can we *differentiate* firms in an increasingly global market which facilitates speedy and massive diffusion of better organizational practices and technological innovation? While globalization helps firms gain access to technical and organizational advances, this enables them to do no more than keep up with the competition. It does not give them an advantage (Luhmann, 1991).

Responding to customer needs has been the first step for many firms aiming to offer unique products or services which can generate a market advantage. However, this movement is limited by considerations of production, which tend not to differ significantly amongst competitors. Furthermore, it has turned out to be counterproductive in the development of new technologies in highly dynamic areas, such as the computer industry: by being so close to the customer, distributors of key computer components did not take into account the innovations that emerged in inferior segments of the market, but which in a short time became industry standards, displacing firms producing older technologies (Bower, Christensen; 1995).

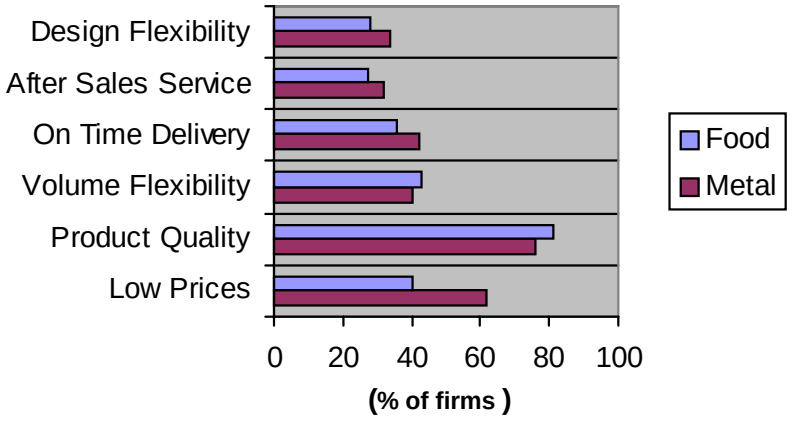
According to a study carried out in 1992 amongst 108 managers, the response of leading European firms was to aim at generating quality products at a low cost at the same time as adapting products to client needs (De Meyer, 1992). However, this does not seem to be the case in Latin American firms, which at best are still in the previous phase of combining low prices with high quality, as indicated by the results of research undertaken by an ILO / CIDA regional project.[2]

The "virtual organization" generates added value for its clients, using resources beyond the static function of production; resources that are not directly controlled by the management of the firm, but which are mobilized by suppliers, workers, marketing and engineering de-

1 For example, the concept of "just in time" to reduce inventories and speed up deliveries, can generate important savings when it is first introduced; however, there comes a point where the improvement that can be obtained is minimal and the cost of achieving it is greater than the benefit obtained.

2 Under the auspices of the regional ILO / CIDA Project "Technological Change and the Labour Market", which was based at the ILO's Multidisciplinary Team in Santiago, Chile, studies on patterns of innovation and human resource management were conducted in six countries of the region (Argentina, Brazil, Bolivia, Chile, Colombia and Mexico) during the period 1992-1996. A set of data collecting instruments was designed and applied in both employer and labour sectors in two industrial branches, food products and metalworking. For managers, an extensive questionnaire on productivity and human resources management was developed. For union leaders, a research workshop was organized along with an

COMPETITIVE CAPABILITIES
Metal and Food Industry
(N metal=189; N food=134)



The results of a survey among 323 food and metal firms, in six Latin American countries, indicated that in both, competitive strategy emphasized the combination of quality and low price, although the latter was more important in the metal industry. This is to say: the topic of quality is spreading amongst organizations.

Punctual delivery, after-sales service and changes in design receive less emphasis. However, these are the areas which permit firms to differentiate themselves from their competitors and have the potential to generate a competitive advantage. Leading international firms are in this phase.

Source: Own calculations based on data from the ILO / CIDA project *Technological Change and the Labour Market*.

partments, research institutes and consumers. The organization actively includes part of what previously constituted its environment, and the strategy is to generate a competitive advantage by building networks between the actual manufacture and the other functions involved in production.

According to some analysts, the emergence of this new type of business organization is due to the fact that it is the *architecture of the organization* which gives a unique and flexible character to the firm. The architecture comprises the set of relations, both internal and external,

instrument to gather information. The sample that resulted for the total of the six countries consisted of 345 and 118 cases of managers and union responses respectively.

which the business has developed in its past activities. This network constitutes a *distinctive* capacity which is very difficult for competitors to reproduce, thus becoming a competitive advantage when actively put into operation and introduced as an asset in the market. The competitive position, from this point of view, is the result of investment in the firm's network of contacts (Lane, 1995).

Instead of focusing on their financial and physical assets, firms should pay more attention to those elements which do not appear on balance sheets: unique technological capacity; knowledge bases; training; experience; innovative capacity; market knowledge; expert software; motivational systems; distribution of information; intangible images; long-lasting alliances. In short they should place more emphasis on the *core competencies* of the organization, concentrating on those which distinguish them from their competitors. The focus is no longer on managing physical and capital assets, but on managing the intellectual processes which in the final analysis are the most valuable assets of the firm (Quinn, 1995-96).

An important component of the internal architecture of the business is the competence of the workforce, that is to say, the contribution which employees can make to reaching the firm's objectives. Traditionally, organizations used this competence in only a few dimensions, generally the amount of effort realized. The *amount* of effort is a relatively easy factor for managers to control and for competitors to match. Not so the *quality* and *direction* of the effort, which reflect the architecture of the organization. Management has to *invest* in the firm's architecture in order to achieve the maximum effect from the efforts made by the workforce. The effort made by workers depends greatly on the rules, which are generally based on accepted criteria, with a strong dose of tradition, forming the *social* interchange of the work contract, which is the complement of the *economic* part (Christis, 1988).

Social interchange refers to the relationship based on the work contract, which largely determines the quantity and quality of effort which workers will make. In this relation there are two important factors. The first is the working environment. Given the element of continuous negociation between managers and workers, transparency and internalization by personnel of the firm's objectives will help ensure that this latent conflict does not become adversarial. The second is workers' understanding of the results which are expected of them. If the firm's objectives are not well-defined, not adjusted to changing circumstances, or not shared by the workers, then they will not know how to direct and develop their efforts. Conversely, if clear objectives

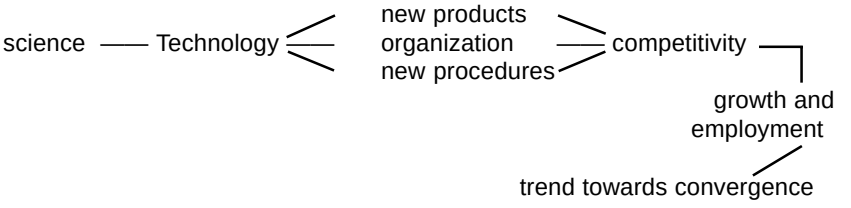
exist in the organization and if these are internalized by all employees, their efforts will become more effective.

The location of a firm plays a strategic role in human competency development, particularly through the quality of the education and training of the workforce. Studies in the United States have revealed that in the decision on where to build a new plant, fiscal incentives play a much less important role than the skills of the workforce in the area or region. The relationship between the firm and the local education system is thus one of the networks which determines the distinctive capacity of the firm in the global market (Kanter, 1995).

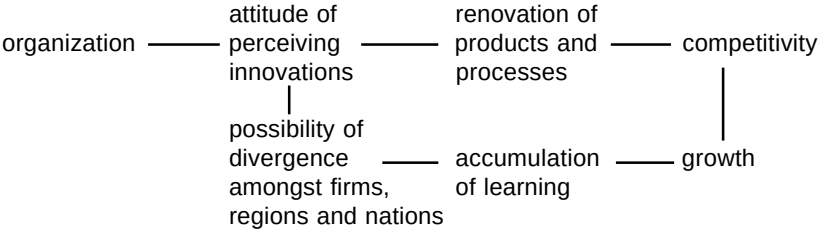
In conclusion, the emergence of labour competence has to do with the need of firms to differentiate themselves in the global market. It also has to do with the new parameters of competitivity which have become more demanding and complex, combining low prices with quality and adaptability, as a means of generating greater added value for the client. These parameters are projected onto the tasks and the people performing them, who thus need new skills.

INNOVATION AND ORGANIZATION:
THE EMERGENCE OF A NEW MODEL

The sixties: linear relationships



The eighties: synergy between organization and innovation



Source: Boyer; Amable, 1993.

2. Strategies for improving productivity and labour competence

The twin objectives of improving quality and reducing costs has led firms to focus their productivity strategy not only on the technology involved but also on the organizational requirements (Womack et.al., 1990).

Some analysts believe that between the 1960s and the 1980s a fundamental change took place in the relationship between science, technology, organization and competitivity (Boyer; Amable, 1993).

They postulate that in the past, innovation arose from advances in science and technology, which moulded the organization of production and labour. This created employment and increased enterprise competitivity, with a trend towards the convergence of innovation models in firms.

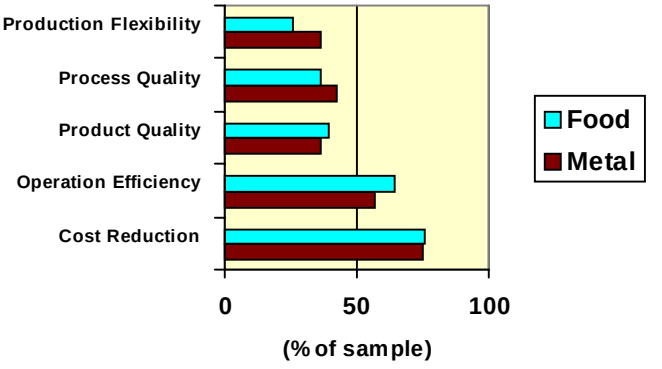
By the 1980s-90s, this linear relationship had been transformed into a synergy between organization and innovation, in which the structure of the organization is the base for technological innovations. The organizational structure or architecture gives the possibility of divergence between firms and regions; this proposal is therefore congruent with the architecture of resources as the basis of competitive strategies (ibid.).

It should be pointed out that the emphasis of Latin American firms seemed to be more on the management of production than on the organization of work and human resources, at least at the onset of organizational innovation (1989-1992). In the second phase considered in the investigation (1993-1995) the opportunities for improving productivity had been fully exploited. The next step in the modernization process was to restructure the organization of work, as a necessary complement to innovations in managing the productive process. In spite of the fact that management "gurus" recommend the contrary, the development of human resources still tends to be neglected.

2.1 Technological innovations

Recognition of the value of innovations in the management of human resources as part of the productivity strategy does not imply a reduction in the importance of technology. In fact, the firms studied have typically shifted their emphasis between different areas: if in the first period the organization was emphasized, in the second they moved to technology or human resources (at least 70 per cent of the sample show this behaviour). Some analysts point out that information technology (IT) is a critical element in redefining and recreating the organi-

PRODUCTIVITY OBJECTIVES
Food and Metal Industry (1993-1995)
(Nfood=134; Nmetal=189)



Quality played a predominant role in the competitive strategy. Nevertheless, in the objectives of the strategy reduction of costs prevailed in the sample of Latin American firms. This has to do with commercial openness in the countries where the study was carried out and the policy of controlling exchange rates in order to reduce inflation. This is a defensive strategy which sooner or later will have to be replaced by one which is more proactive, based on quality and flexibility.
Source: Own calculations based on data from the ILO/CIDA project.

zation. IT allows power, functions and control to be redistributed until they respond to the firm's objectives in the most effective way (Scott, 1991).

In Latin America, the technical base of firms shows an increasing use of microelectronics, although the degree of diffusion is still limited. Thirty per cent of the enterprises studied in the metal industry and in foodstuffs, were planning to introduce microcomputer-controlled equipment in the period 1993-1997. The business environment of the nineties demands quicker and more efficient responses from firms, so that they have to accelerate their decision making. This is possible, partly because of the dynamics of the environment and partly because IT has changed the way in which work is done. In effect, IT is the technological base of a modern organization. Managing the numerous interdependent factors which prevail in the 1990s and the dynamic environment, requires

new systems and processes. The measurement of work, compensation and salaries, incentives and qualifications all require rethinking in the world of IT (ibid.).

The accelerated introduction of information technology has focused attention on the need to achieve its full potential. Studies have shown that the success or failure of its adaptation or installation depends very much on the complexity of the human resource system in place. Infomation technology has a considerable impact on the firm's personnel but at the same time the culture of the organization and the management of human resources has an effect on the technology. Management policies and norms determine how and what type of technology is chosen, how it will be implemented and how successful it will be in achieving the proposed objectives (ibid.).

2.2 New organizational forms

Although there may be consensus on the broad paradigms of technological and organizational innovation, and the need to synchronize the two, there is less agreement among researchers and business analysts on the best practices of the moment. "*The problem facing firms wishing to change is that there is no clear blueprint available to define the new organizational forms or technological configurations that are needed - any more than earlier paradigms were articulated at their start. Instead, there is a need for experimentation, innovation and learning, as new options are tried and evaluated as models for 'best practice' as alternatives to the increasingly appropriate 'Fordist' model. One of the phrases beginning to enter the manufacturing language of the 1990s is the concept of 'the learning organization'*" (Bessant, 1991).

EVOLUTION OF COMPETENCE IN CLOSED SYSTEMS COMPARED TO OPEN SYSTEMS

Closed:	Open:
Technology, organization	Results
x	x
Functions/competencies	Functions/competencies
x	x
Task	Technology, organization
x	x
Results	Tasks

Besides the fact that there are no clear formulae, problems of *interpretation* have arisen with regard to firms' understanding of the different concepts of organizational innovation: "*What is most perplexing and most exciting about the current era is the multiplicity of competing ideas about the 'proper' way to organize work. Everyone, it seems, is talking about becoming a 'world-class' manufacturer dedicated to 'lean production', 'total quality', 'continuous improvement', and 'organizational learning'. But the* meanings *people attach to those terms, the routes they plan for achieving them, and the resources they have for seeing them through to fruition are often quite different"* (Thomas, 1994). To understand the process of innovation it is convenient to start with the details because that is where the "devil" lies, as those in charge of production engineering say (ibid.).

Organizational innovations have in common the fact that they are open systems: their limitations and scope are imposed by the organizations themselves. With the closed technological and organizational systems of the past, there was a direct relationship between the system and the results: machinery had a production standard and a standard output "x" per hour for the operator. The basis of the system was that the sum of efficiencies in each post would result in efficiency for the flow. The paradox which resulted was that when the Taylorist method sought to reduce wasted operator movement in each post (Bluestone; Bluestone, 1992), waste started to accumulate along the length of the flow and in relation to the client, rendering the method counterproductive. However, the greatest paradox was that this method wasted the education, knowledge, creativity and intelligence of the worker; i.e. the very basis of a strategy of sustainable increased productivity in complex production systems (Cepal-Unesco, 1992).

The opening of technological and organizational systems means that their linear relationship with predetermined results is lost. The wide variety of options for innovations in technology and organization extends the range of results that can be obtained with a predetermined technological and organizational package. Results will depend more and more on the capacity to coordinate organization, technology and personal development, systems which in turn are made up of a great variety of equally open subsystems. The consequence is the loss of the traditional "driving" relationship which went from the machine and the organization, to the task and finally to the desired result.

In an open system with many subsystems, technical and/or organizational innovations have the potential to produce many results. The question is: which result is wanted? It is necessary to work backwards: first define the result, then identify the functions linked to the

Effort required for organizational and technical innovation:

The effort required to implement organizational change is much greater than to instal a new machine. In the case of equipment, the firm knows the challenges indicated by the specifications of the machine. With people it is not so clear. The dilemma continuously arises: how far to go? and how fast? The *modus operandi* has to be changed, that is, production practice. This requires personnel who a) are committed to the objectives of the firm; b) are flexible in the face of adaptations; c) identify with the idea that quality comes first. These points create a new culture in the firm, at all levels of the organization.

Interview with manager in metal industry. Mexico, 1993.

organizational and technological options and, finally, specify the type and content of the tasks.

However, it is not enough to reverse the relationship between results, functions, technology-organization and tasks. Modern firms tend to increase the number of elements which must be kept together in order to survive in a global market which is also composed of an increasing number of united elements. For example, the twin objectives of productivity and quality output represent a combination of demands in terms of price, volume, quality, design and service to the client; demands which have evolved, not separately, but jointly, with a variety of possible options for the firm.

The innovation strategies that firms follow to respond to these changing and growing demands are characterized by initiatives in technology, production management, work organization and human resources. In the firms studied in Latin America, the average *number* of initiatives per firm increased from 14 to 20[3], between the periods 1989-1992 and 1993-1995. It seems that increasing the number of initiatives causes firms to reach a point where it is no longer possible to relate each one of the elements. In function of an inherent limitation in the capacity of adjustment a complex relationship develops, in which it is no longer possible for each element to be related to every other at all times (Luhmann, 1991).

The fact that the firm as a system becomes more complex imposes the need for *selection*, which converts the firm into an organization where selection occurs in a coactive way, which in turn means contingency and risk. Selection places, qualifies, and orders elements even if there are *other* possible relationships. This "possibility of other forms" and

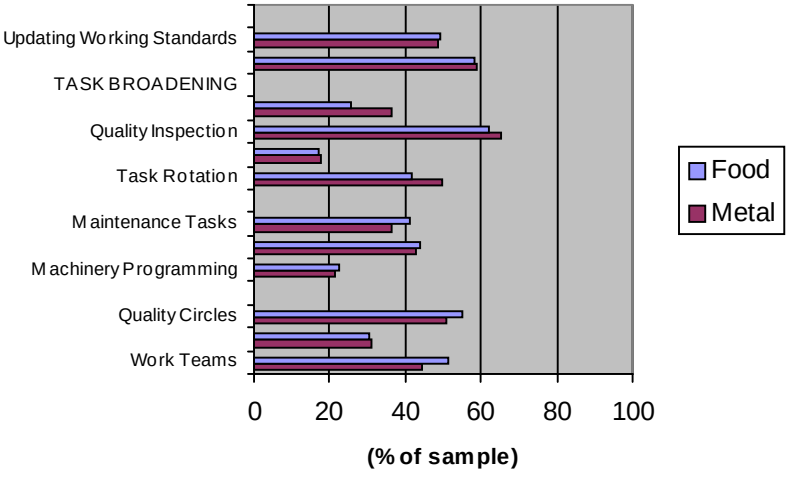
3 In the case of the metal firms, the increase was from 14 to 20, and in food the number rose from 13 to 20 initiatives.

the possibility of failure even with the most favourable configuration of elements is the contingency and is what characterizes the complex organization (ibid.).

Greater complexity in the innovation systems and consequently in the operation of the firms demands selection, and it also demands greater adaptability in personnel systems. This greater adaptability is translated into the requirement for *learning capacity*, which must be available on a permanent basis (Luhmann; Schorr, 1993).

In the context of work organization based on maximum division of tasks and specialization, and minimum cooperation and autonomy, the

WORK ORGANISATION INNOVATION
Food and Metal Industry (1993-1995)
(Nfood=134; Nmetal=189)



In both branches, the innovations in work organization were concentrated, in the period of reference, on: the simplification of tasks and updating of work norms; the assignment of inspection tasks and statistical process control to operators; multiskilling; teamwork and quality circles. Less present were the assignment to operators of maintenance, programming and similar tasks, and reduction in the number of hierarchical levels. In the trajectory of change, these last initiatives will probably come later.

Source: Calculations based on data from the ILO / CIDA project.

complexity of the functions, and therefore of the organization, is reduced. This is the basis of the Taylorist model of work organization, which in its assessment of standardization and specialization of techniques and operations is still valid and "modern" today (Christis, 1988).

However, the strategy of reducing complexity has lost validity by reducing the parameters of competitivity to a single dimension (price) which is no longer relevant in most segments of the global market. It also attempted to reduce the complexity of production systems through the technical and social division of work, which generated a series of dysfunctions in terms of waste and operations of little or no added value. These were the windows of opportunity for improvement on which "lean production" and the system of continuous improvement concentrated later (Womack et.al., 1990).

Particularly in the case of Latin America, the need to comply with various dimensions of productivity at the same time -costs, quality and customer service (in industrialized countries we may add design)- has led firms to change the organization of work.

Differentiating between principal and peripheral tasks, a tendency is observed to simplify the principal tasks through greater standardization of the operations, in order to reduce costs. The principal task is extended by the inclusion of quality inspection functions and the introduction of multiple skills in a single level of complexity of the tasks. Additionally, we can observe an enrichment of peripheral tasks, both socially (working teams, reduced hierarchy) and technically (statistical process control, preventive and corrective maintenance, administration), in order to reduce operations of little added value and improve productive flow. This is accompanied by a wider autonomy in the realization of tasks.

The combination of these elements is accompanied by new functions for workers. In other words, multiple productivity objectives are projected in multiple tasks for workers. However, there are *limits* to the widening and enrichment of tasks, because in the end there are abilities and specific knowledge that are not easily transferable within the production process.

The complexity and openness of the tasks that workers must carry out in order to comply with their new functions make the details of the operations less controllable and predictable. Contingency increases, that is, the possibility to arrive at an objective in more than one way, and also, the possibility of failure even with the most favourable configuration of operations and their elements (Luhmann, 1991).

Besides the need to set new limits for the functions themselves, this trend of openness and complexity of functions means that the tasks are

no longer synonymous with skills, as in the Taylorist model. The need arises to start from the *competence* before describing the task; allowance has to be made for an open range of possible routes which will arrive at the desired competence. This can become a motivational tool for personnel, in that it represents an obtainable objective. Although workers' performance is more effective when the objectives are clear and simple, in practice objectives are not presented in this way and often a balance is required between competing interests or mutually conflicting objectives. In this sense, competence can help reconstruct the limits of functions, thus becoming an attractive tool for the strategic planning of human resources.

The innovative capacity of the productive apparatus means that the trajectory of change must be understood in a context of *heterogeneity*. The results of the ILO/CIDA project indicate that, even if there is a difference between sectors in terms of the *rhythm* of innovation, the *direction* does not differ greatly between industries as distinct as food and metal. It may be proposed that the concepts of change corresponding to the lean production model apply independently of the type of activity. Firms are distinguished by subtle differences in the type of initiative, the profundity of its application and its links with other initiatives, particularly in the management of human resources. They are also distinguished by the sequence of initiatives and the moment at which implementation begins (Mertens; Palomares, 1993).

Firms have different strategies for implementing change. Some stress the symbolic aspect of the change, emphasizing the mission statement of the organization, transforming managers into "preachers" of new symbolic systems based on a vision of the 'ideal' organization, as is the case with total quality philosophy. Others emphasize the development of new meanings in the areas of quality, costs and customer service, with precise and sometimes complex methodologies, as in the ISO 9000/2 series and ISO 14000 (standard which focuses on the environment). The challenge for the firm is to strike a balance between efforts to develop the vision and the symbolism, and the system of meanings. This is translated into the problem of leadership change in which managers and union leaders are the protagonists.

2.3 Innovation and heterogeneity of the production structure

The principal factor in heterogeneity is the *size* of the firm, at least in Latin America. Small firms have advanced the least in initiatives related to lean production and they have made little progress in the corresponding productivity indicators. This conclusion agrees with the

results of research on productivity dynamics in Mexican industry, where small firms have evolved more slowly than large ones (Brown, 1995). It also agrees with the results of an ILO questionnaire: "Technological change, work and employment in the manufacturing industry of Gran Santiago, 1988-1990". This survey led to the conclusion that "*technological heterogeneity seems to have deepened in the period of reference, even though some small firms showed very innovative behaviour. In general they faced the known difficulties of accessing information sources and suppliers of technological changes, or lacked the resources to introduce them. For the same reasons but acting in the opposite sense, the adoption of combined productivity strategies (simultaneously applied to the technological base and to the organization) was more frequent in large firm*s" (Geller, 1994). Contrary to what happens in other industrialized countries, the emergence of dynamic small firms has not yet been seen in the region, although there are some individual cases of success.

Large firms are just beginning to draw closer to the supplier and to subcontract production to smaller, specialist forms. Even if in Argentina, Brazil and Chile these phenomena have been observed more than in Mexico, the main reason for subcontracting seems to be the reduction of labour costs, and the increase in volume in the Chilean case (Geller, 1994), more than the specialization and learning capacity of small firms.

In this last aspect, a difference was noted between sectors: whilst subcontracting production occurred in more than 25 per cent of cases in the food industry, in the metal industry almost 40 per cent of firms planned to do this in the period 1993-1995; in technological assistance to suppliers the figures were 40 per cent and 50 per cent respectively. Managers in the food industry were jealous of their production processes and resisted a closer link with suppliers. However, in the metal industry, and especially in auto parts, there are signs that the new concepts are filtering down the production chain towards the small supplier. In this case, one could venture the hypothesis that certain basic competencies would be shared amongst firms of different sizes, and, further, that the small firm could become empowered with the labour competencies of the larger firms if transfer costs were low.

2.4 Work organization and union vision

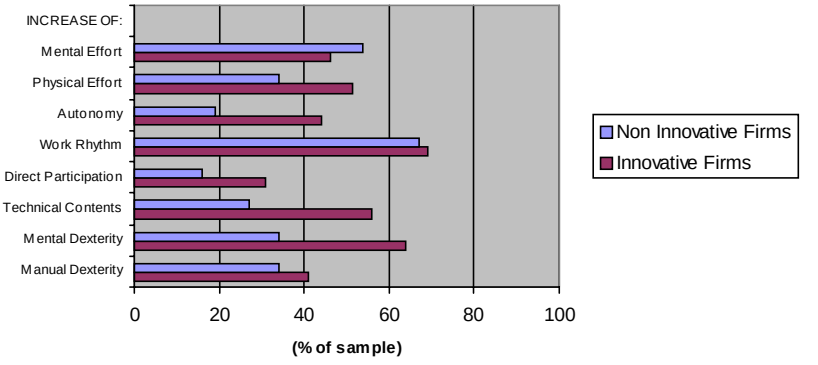
The response of unions to changes in work organization is varied and depends on the direction of change. However, various studies have found little difference between unions' perceptions and interpretations of changes in work organization and changes in the required competence. For example, it is proposed that increased autonomy be limited

to the post itself, covering the sequence of operations, but rarely going beyond the post, which transforms it into a controlled autonomy (Christis, 1988; Parker; Slaughter, 1994; Garcia et al.,1994). Complexity does not usually go beyond resolving routine problems; the work cycles in the principal task are short with rhythms of work tending to increase (ibid.). This is to say that unionists question the limited advance of openness and complexity in functions and tasks. They also argue that multiple skilling in factories does not necessarily lead to portable training that can be taken to other firms[4] (Parker; Slaughter, 1994).

From a union perspective, the identification and definition of labour competence opens up the possibility of re-establishing workers' functions in the plant, taking into consideration the technological and organizational factors of the particular case. In this way one can propose more external autonomy and jobs which involve solving non-routine problems, which demand abilities beyond carrying out simple opera-

4 These authors propose that traditional occupational qualifications were portable in their time and that multiple skililng would not automatically have this characteristic.

WORK ORGANISATION: UNION PERSPECTIVE
(1989-1992)
(Ninnovatives=39; Nnon innovatives=79)



From the results of research with union leaders we can see that the trajectory of modernization followed by food and metal firms has led, in more than half of the cases designated as innovators, to an increase in the manual and mental skills required; this is not so in terms of technical knowledge. The rhythm of work also increased and, although to a lesser degree, the physical and mental effort. Meanwhile, participation and internal autonomy with respect to the capacity to regulate increased in fewer cases.

Source: ibid.

tions. One can also propose alternatives in the context of accelerating work rhythms, which is a constant in the majority of firms (ibid.).

Part of the research of the cited project was carried out with union leaders in Latin America. They pointed out that changes in firms have had an impact primarily on the mental and manual skills required. This is partly because of the extension of tasks in terms of quality inspection and multi-functioning, but also because of the more intense rhythms of work resulting from the slimming down of functions and operations. Workers are required to make greater mental and physical effort, but enjoy little participation and autonomy in the realization of tasks.

From the union perspective, the definition of labour competence will require the revision of functions and also of the technological and organizational context in which these exist. The aim will be to generate greater depth in the technical content of tasks and to avoid the negative impact on working conditions (Parker; Slaughter, 1994). In this sense, the definition of labour competence becomes a forum for negotiation and for potential conflict. The labour climate in firms will determine the capacity of the organization to cope with this latent conflict; this variable thus becomes a strategic factor when labour competence is introduced in the organization (Mertens, 1992).

3. HUMAN RESOURCE MANAGEMENT AND LABOUR COMPETENCE

The role of human resource management (HRM) in productivity strategies, although it appears in the management literature, is not observed with the same vigour in practice. This is the case in industrialized countries and it is even more striking in Latin America. However, there are studies that demonstrate the preponderant role of HRM in productivity improvement, particularly in the lean production model (Womack et al., 1990).

In 1974 the analysts Ruch and Hershauer, from the United States wrote: "*it appears that technological variables are a prerequisite to determining potential productivity, but that the human or attitudinal variables are the more powerful in determining actual productivity. A lack of motivation can negate the effect of technologically advanced equipment more easily, more quickly, and more thoroughly than the reverse, whereas a high degree of motivation can effectively overcome a slight deficiency in technological progress*" (Bluestone; Bluestone, 1992).

A questionnaire survey of 1800 directors of leading firms in industrialized countries revealed that leadership is critical at all levels

of the enterprise in the context of new definitions of the organization and of new information and communication structures. Leaders have to know how to communicate objectives and values, moulding the behaviours that correspond to the restructured tasks. They need to promote two-way communication and greater participation by personnel in general. Although the directors acknowledged these elements, the same study pointed out their admission that firms still have many difficulties in communicating with personnel and involving them in decisions, as well as in acting on their suggestions. After a decade of restructuring and re-engineering, the challenge is the workforce. Employees continue with basically the same behaviour as in the past and do not act as protagonists. In order for employees to join the new world of business, the leaders of organizations must create a *social architecture* in which the workforce is no longer the principal challenge to change but the beneficiary and driver of change (Watson Wyatt, 1995).

Research in the United States points in the same direction: changes in the organization of work through the introduction of work teams lead to improvements in productivity and the quality of work, when accompanied by and / or inserted into worker participation in company decisions, when there is job security based on training, and when there are systems of payments and incentives based on group results (Levine, 1995).

The term "social architecture" indicates that it is not sufficient to act on a single aspect of human resource management. The results of the cited project confirm this thesis: the firms with the best performance had carried out simultaneous initiatives in diverse fields of HRM, namely: in training, participation and involvement, payroll systems and ergonomic programmes. Whilst the least dynamic firms had applied an average of three initiatives in the development of human resources, the

On the order of innovation efforts:

Some firms will go for vast improvements in machinery with vast investments. But in general, firms will have to dedicate themselves to working with people. In some form this will be the innovation of the organization of work, not to be understood only as the distribution of work, but above all as its direction. This means improving labour force management. Today, workers are badly paid. This must start changing, increasing salaries, giving something extra. Personnel arrive with little training, so the firm ought to invest in training, in education and in the retention of personnel.

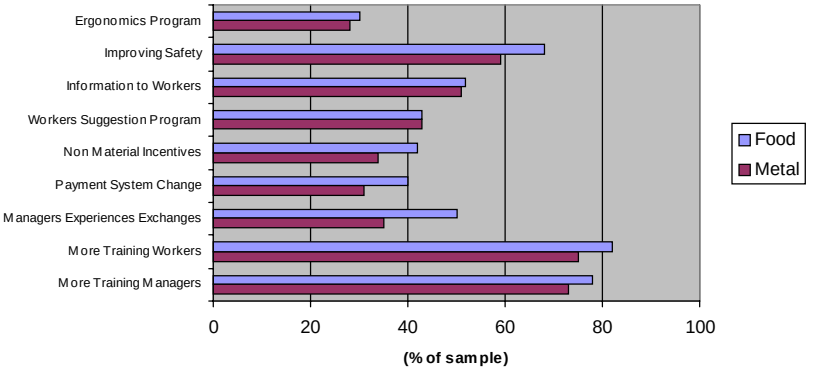
Interview with manager in metal industry, Mexico (1993)

most dynamic had introduced an average of four initiatives in the period 1989-1992.

Nevetheless, the results also indicated that few firms gave priority to their human resources and that one of the main difficulties was to link the initiatives in different areas, to arrive at a social architecture that would support the innovation strategy of the organization.

The social architecture is the link between the different subsystems of human resource management and tends to become complex because of the number of superimposed innovations. As in all architecture, there must be axes or backbones which give substance to the structure. The definition of competence norms or standards for personnel can play this role, because finally all innovations in HRM must produce results in order to justify the investment. The link between innovations and results at firm level is not direct but mediated by the workforce. The best way to ensure the result is probably to formulate it as the content of the desired competence.

HUMAN RESOURCES MANAGEMENT INNOVATION
Food and Metal Industry (1989-1992)
(Nfood=134; Nmetal=189)



Projection of initiatives in the development of human resources in the food and metal industries for the period 1993-1995 shows a lag in the participation and involvement of personnel, changes in the system of payment and ergonomics. It also shows that organizations in Latin America have difficulties with improving their social architecture, which is the basis for restructuring the firm through mobilizing the human resources at its disposal

Source: ibid.

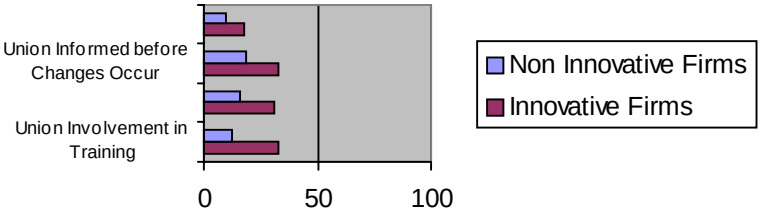
However, if competence is a basic component of the social architecture, it is clear that competence must be defined jointly by management and workers, so that there is a consensus on the objectives to be reached. This is not a consensus by lecture or by pronouncement, but a consensus derived from experience (Pritchard, 1990).

In relation to this last point, the practice of Latin American firms is quite poor. In very few firms do workers and unions participate in decisions about change, work routines and in the management of training; and even when this does occur, in the opinion of unionists, it happens only when management has an urgent need for workers to help solve a problem (Garcia et al., 1994). Furthermore, union leaders pointed out that participation is of a *consultative* nature and rarely achieves a *substantial level*.

Studies carried out in the United States indicate that consultative participation at plant level does not lead to a sustained improvement in productivity. Consultation has to be combined with the reorganization of work and the widening of worker participation in decision making (Levine, 1995).

WORKER PARTICIPATION: UNION PERSPECTIVE (1989-1992)

(Ninnovatives=39; Nnon innovatives=79)



From the union point of view, worker participation in areas directly related to productivity improvement is rare. However, it occurs more in innovative firms, becoming an attribute of these. That is, the trajectory of innovation would point towards worker and union participation.

Source: ibid.

Labour competence would have a greater impact on productivity if it were jointly defined by management and workers-unions. That is, the possibility of productivity improvement increases to the degree that worker participation in defining competence is *substantial*.

Labour competence, seen this way, becomes an opportunity for unions and workers to take the first steps towards substantial participation in the firm.

II
Transformations in the labour market and labour competence

Transformations in the labour market are closely, although not exclusively, related to innovation and demand. Factors related to the institutions which regulate the labour market and which formulate policies and programmes also play a part. These are complemented by trends in supply, the education and training system and socio-demographic factors.

This study concentrates on demand factors, because to a large extent they determine the objectives of suppliers. Nevertheless, the importance of institutions which regulate the labour market is recognized, because they transmit signals from demand to supply.

Supply can also influence demand, moving innovations from the education and training system to firms. For example, the training of technicians in Mexico has produced excess supply in certain areas. In response to this situation, the education and training system proposes, amongst other measures, drawing the attention of managers to the advantages of employing technicians, pointing out that their training allows them to learn more quickly and become agents for change (Conalep, 1995a; 1995b). This is only possible when the education/training is of high quality and is linked to the needs of firms.

1. TRANSFORMATIONS IN DEMAND

The transformations which have occurred in organizations during the last decade are just the beginning of a process of continuous change. Recent change in the structure of firms was the common denominator in replies from 1,800 leading managers from six industrialized countries: four out of every five mentioned introducing some type of reorganization in the previous two years. Furthermore, two-thirds said that restructu-

ring would continue with the same or greater speed into the twenty-first century (Watson Wyatt, 1995).

Similar responses were observed in the project mentioned above, where managers indicated that innovations would increase in technology, organization of production and work, and human resources. It is important to mention that the process is not linear. Innovations do not necessarily last long: frequently they lose their utility or are not implemented adequately, causing firms to abandon them (Mertens, 1997).

In light of this accumulation of constantly changing initiatives the question that arises is: what are the common elements in the qualifications or skills required? This is important because if there were no common elements, training would have to be carried out individually by each establishment, with all that that implies in costs, not just of training but of transfer when a person changes job or occupation.

In Canada, a group of people from the worlds of business, education and labour, were brought together specifically to analyse this and other problems transforming the labour market. The study was inspired by two outstanding facts. First, between 1989 and 1991, an average of one out of three economically active Canadians had been involved in a process of change at work. Secondly, in the context of a trend towards replacing unskilled manual labour with skilled and/or semi-skilled workers, in an organizational framework of work teams and other innovations, managers are recognizing that human resource management is vital for the success of the company (CLFDB, 1994).

This group concluded that the majority of Canadian firms need workers with a very different profile of training and skills from that of the past. They need workers with basic qualifications which allow them to continue learning and adapting to organizational change. This is the level at which common elements manifest themselves between sectors and activities that are very different in nature (ibid.).

A study carried out in the 1980s in Mexico between very different industrial sectors such as the metal industry, electronics and petrochemicals, concluded that the traditional differences between these areas were disappearing at the level of basic qualifications, not only because of organizational innovations but also because of the introduction of microelectronics in all types of process (Mertens; Palomares, 1987).

This homogenizing dimension in qualifications partly explains the increased mobility of workers in the labour market, which is apparently less limited by rigid partitions according to sector or activity. This is not to say that there is mobility between all types of activity, but rather

within a cluster of activities which have certain common characteristics, although they differ in other aspects.

Another partial explanation for increased labour mobility might be in the volatility of business cycles and in productivity strategies based on lean production. The globalization of markets and the accelerating pace of innovation have made it harder to predict the outlook for firms, even in the short term. Companies which were leaders yesterday may be followers tomorrow and losers the day after tomorrow. This behaviour depends greatly on the rate of technological innovation, which in areas such as microelectronics is faster than in others. One of the most common patterns in leading firms is the difficulty they experience in remaining at the forefront when technologies or markets change (Bower; Christensen, 1995).

As far as the second factor is concerned, companies generally reduce personnel when they introduce lean systems, overstaffing being one of the first factors to attack in this model. In the aforementioned study if a relation was not found between innovation and total workforce size, then a change was observed in the composition of the workforce, with more skilled workers and young people, and fewer unskilled and older workers. The vulnerable groups in the labour force are those two sectors in particular: unskilled workers and those over 40. To these we can add the structural vulnerability of certain young workers; those with low qualifications and from a marginal social group, in the economic, social and cultural senses (ILO, 1995).

A direct relationship is difficult to establish between innovations and employment. If it is true that the decision not to innovate in an open market economy in the long term leads to the displacement of firms and a step backwards in working conditions, then neither can innovation on its own guarantee more jobs. If innovation is more orientated towards optimizing the process in terms of cost, quality and adaptability and less towards improving the product, the possibility of creating new jobs will be limited. In other words, the capacity to generate jobs is closely linked to product innovation, on condition that the process has standards of efficiency and quality close to international parameters (Mertens, 1997).

The previous assertion has to be put in the context of the present restructuring of the country concerned. *"The creation of job vacancies depends not only on the rate of economic growth, but also on the maturity achieved in the restructuring of the production in each country. The countries which are more advanced in the process of structural refinement generate jobs more quickly than those which have recently initiated the process, even when they have similar rates of economic growth"* (ILO, 1995). It is worth adding

that structural refinement has to be understood in the wide sense of adapting to new circumstances which are being created in the environment, a process which is learnt by nations and which is not necessarily cumulative and linear in time.

The challenge in terms of employment is increasing all the time: during the 1980s no new jobs (in net terms) were created in the industrial sectors of the principal Latin American countries, with the exception of Chile (Buitelaar, Mertens, 1993). Taking all sectors together, the evolution of the economy in the last 15 years was accompanied by a very slow recuperation (1.7 per cent) of the employment by medium and large firms. Are we faced by growth without the creation of "formal" employment ? (ILO, 1995). In the 1990s, 84 out of every 100 new jobs were in the informal sector, which accounts for 57 per cent of those employed in the region (ibid.). Recent years have witnessed a new phenomenon of increased unemployment when the economy contracts, a situation which did not manifest itself so clearly in the past because of a greater capacity to absorb and alternatives in the informal sphere (ibid.). This indicates complete saturation of the informal sector, if that were possible, and /or the presence of people from the middle class among the unemployed, who have to resort to survival strategies linked to social exchange networks which previously were seen chiefly in marginalized classes (Lomnitz, 1975).

For more than 15 years formal employment in Latin America has risen and fallen in a way which does not reflect a structural line of growth comparable with the yearly increase in the labour supply over the same period. To this are added new phenomena such as those already mentioned, in which even people with qualifications well above the average do not escape unemployment. This means that the problem is not just a quantitative lack of education-training, but also misdirected training, which is as bad or perhaps worse than a quantitative deficiency, because it means that scarce resources are being wasted.

The above also implies employment trajectories which can move not only between formal and informal, but also between salaried employment and self-employment or some hybrid of the two. In other words, the trajectories of individual employment tend to be less predetermined, not only for workers but also for technicians and professionals, with greater likelihood of passing from formal to informal, or of conscious decisions to move from employee to manager, possibly combining both in the same working day.

To summarize, at least two phenomena stand out amongst the changes in the labour market. On the one hand the greater participation of skilled workers in production and the consequent demand for such

workers in the labour market. On the other hand, the move out of formal employment of unskilled workers and those who possess "inadequate" training. The term "inadequate" training relates to the labour market; in other words it refers to an inadequate supply with respect to the demand,.

Following this line of analysis, and without undervaluing other elements, two great problems can be seen in the labour market, linked directly to education and training. On the one hand, the qualified workers: what is their profile and how does it evolve? On the other hand, the people who cannot be incorporated into the formal labour market in the short or medium term and who work in the informal sector. Trajectories can move between: formal and informal; stable and temporary work; full time and part time; employee and manager, at one or more times during the working life of an individual.

1.1 The skilled worker

Starting with the first problem and its link with labour competence, the concept of the skilled worker is somewhat loosely defined and its meaning changes with transformations in the production process. The term "skilled worker" arises in general in the plant, in practice, whilst in the labour market references to "skilled" do not exist. The term turns out to be a sort of black box, despite the fact that it plays an essential role in enterprises. The question arises: how to classify and order the skills needed at different levels of a firm in such a way as to construct common meanings, understood by the partners in the employment market?

The Canadians (Conference Board of Canada) identified three basic families of skill -academic, personal and teamwork- skills which mana-

Firms in Canada require the following basic skills of a worker:
Academic skills: the ability to communicate effectively in the workplace (speak, read and write), solve problems analytically using mathematics and other related disciplines, and learn continuously throughout professional life.
Personal development skills: demonstrate a desire to progress in the firm through positive attitudes and behaviour, self-esteem and confidence, accept challenges and adapt to changes in the workplace.
Teamwork skills: the ability to work towards objectives as a member of a team, understand the importance of the job in the wider context of the organization, and make plans and decisions jointly.

Source: CLFDB (1994)

gers hope to find in workers and which earn them the attribute "employable" in the firm (see summary below). In addition to the basics, employability depends on a wide range of abilities, given that in order to operate in a flexible environment, workers need to know how to perform a variety of tasks. Many jobs demand that workers learn new processes, to complement what they already know (CLFDB, 1994). Robert Reich claims that the only true competitive advantage is knowing how to solve, identify and treat new problems (Reich, 1992). To these basic elements we have to add the theme of environmental sustainability (Cepal-Unesco, 1992). The peculiarity of these basic skills is that they are determined by the environment in which the person develops. Taking them outside the context of the workplace could result in a misunderstanding of their meaning (Hager, 1995).

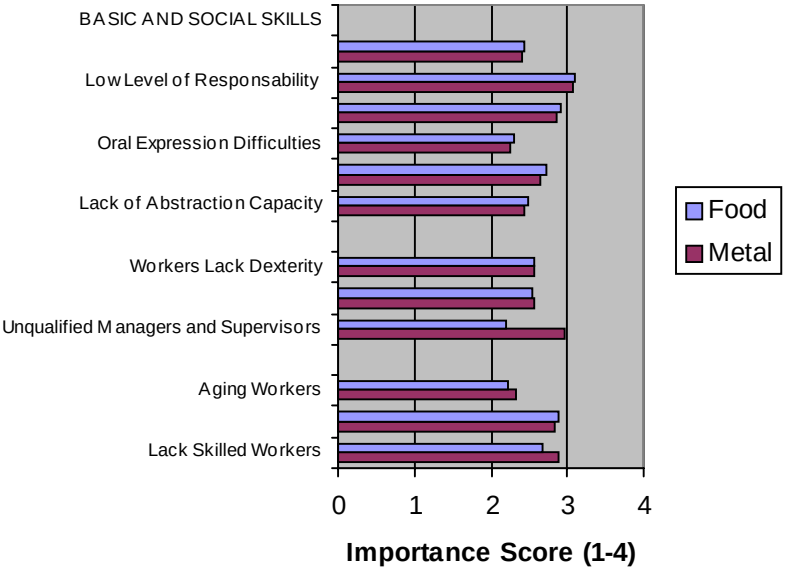
The results of the previously cited project point in the same direction. The deficiencies in training, highlighted by managers in both the food and metal industries, are primarily social and personal: accepting responsibility, solving problems and communicating. But manual and mental skills are also important. This is because optimization is introduced partially, in certain critical areas of quality and efficiency, whilst in other stages of the process work continues to be done manually, with or without tools and instruments. In other words, the worker is required to have a complex structure of attributes necessary to perform in specific situations, and to make judgements appropriate to the context (Gonczi, Athanasou, 1996).

The above is a qualitative change in comparison to previous production practices, where the basic requirement of an operator was limited to "being willing to work". Firms whose workforce was employed according to this criterion are now having to make an effort to raise the educational level, in order to implement programmes such as statistical process control. Basic reading and writing are essential for operators, above all in peripherals. Observations in plants show that reading comprehension is vital, i.e. the basis of communication. We can infer that the concept of basic qualification has come to mean not only a higher level of education, but also a different content, reflecting the complexity of the environment in which the worker has to evolve.

As mentioned earlier, complexity means that not all the functional elements are connected at all times; this means that there are various ways of arriving at the result of a function. Education and training should reflect this complexity, requiring a qualitative change in the nature and content of courses as well as in the assessment. This theme is considered in the next few paragraphs.

Currently, it can be shown that the production strategy followed by the majority of firms is inspired by the philosophy of slimming down, which has meant a reduction in the workforce and the assigning of more, and more diverse, tasks to the remaining employees. This has made

QUALIFICATION PROBLEMS
Food and Metal Industry (1989-1995)
(Nfood=126; Nmetal=179)



The qualification problems highlighted by managers of firms in the metal and food industries of six Latin American countries are greater in the area of personal and social skills, i.e. accepting greater responsibility and taking the initiative. Managers lack the skills to introduce technological and organizational change, a problem which stood out more in the metal industry, probably because firms in this area had advanced further in new types of work and production organization. The lack of skilled labour, technicians and professionals was emphasized, indicating that there are difficulties in adapting training to firms' needs.

The scores for other problems indicate that the range of qualifications needed is widening in a similar fashion in both areas, combining the need for skills in operating new equipment, with social and behavioural competence.

Source: ibid.

organizations more vulnerable to unforeseen events, which affect the workers directly when they occur. This is one reason why organizations are emphasizing social and personal skills.

Another element which needs to be highlighted is the difficulty experienced by managers in responding to technical and organizational innovations. The problem of lack of training is generally found in operators. Just as important is the lack of preparation of management at all levels. The emergence of competencies for this level of personnel in industrialized countries is a response to the deficiencies encountered. Examples of competencies defined for managers and administrative personnel reflect the need for adaptability and interpersonal skills in organizations.

Considering that the ability to learn has become a basic skill for organizations, independent of the type of activity, the question arises: which factors determine this ability in people?

The ability to learn, which goes hand-in-hand with the ability to innovate, is empowered to a large extent by social interactions in the organization (Lundvall, 1992). In order to make changes happen in an organization management has to steer a course between leadership and expectations, between discussion and reality, between imposition and participation. The levels of social interaction differ between firms and so does the ability to learn. Within these differences there should be a frame of reference, a point of comparison, a labour market indicator, which survives the test of divergence; that is, which remains valid within the given range of variation.

Furthermore, the ability to learn means that people are willing to change their expectations and that these can be restructured; this is a risk that people have to learn to accept. As such, the ability to learn depends on a cognitive rather than normative outlook, and a disposition to change rather than impose. The ability to learn is not only the end product of the education and training system, but also the operative premise which is developed by constant use: learning reinforces itself (Luhmann; Schorr, 1993).

The two types of learning which are particularly relevant in firms are the ability to learn per se and the ability to acquire useful knowledge. There is neither a reciprocal nor an exclusive relation between these two, but rather a mutual conditioning which allows diverse characterizations (ibid.). Given the diverse relations between these types of learning and considering the wide range of conditions previous to learning, the common reference for the labour market is more meaningfully expressed in terms of results obtained than in terms of routines to be followed.

Since the ability to learn is an open concept, this aspect of labour competence is determined by the context of real work, not the normative or theoretical criteria of the education system. This is illustrated by a case study carried out in Mexico in an automobile plant with state-of-the-art technology. The problems of qualification indicated by a sample of 106 workers, selected at random, show the contingency between training and the tasks being performed. On the one hand, 52 per cent had a level of education higher than necessary for the task. On the other hand 52 per cent sometimes faced problems which they could not solve, and for 20 per cent this occurred frequently. Furthermore, 49 per cent claimed that with more training they could improve their work. This plant had a double shortfall in training, i.e. both in the basic level of training which the workers had and in the training offered.

The workers had a type of education and training which was too formal (27 per cent with technical training; 11 per cent with university training) for the type of work being done, which really required skills. The training was too basic, lacked depth and was not updated by the workers in terms of knowledge acquired. A high level of formal education is not necessarily the best answer to deficiencies in training for a manufacturing plant. That is, the open concepts of learning ability, problem solving, communicating and decision making are determined by the context and it is difficult to interpret them from the outside.

This leads to another problem, highlighted particularly by unions in the United States and Canada, in the face of the movement towards low-skilled, low-paid jobs. A higher level of qualification is not enough; skilled jobs are also required and this implies an organizational culture which recognizes workers' knowledge and which is ready to empower this knowledge. The definition of labour competence can play a role in transforming unskilled jobs, provided organizational variables are included in the modification process, which is not limited to training.

1.2 In the face of informality and unemployment: Entrepreneurship and solidarity as a basic skill?

Structural unemployment in the industrialized countries since the first oil crisis of 1973 has broken the trend of rising standards of living that had been a feature since the beginning of the fifties. This phenomenon manifested itself differently in different countries, but had in common a U-turn in the 1980s with regard to employment and the standard of living for middle class families, with the exception of a few countries in South East Asia. In the nature of growth the rich get richer

and the poor get poorer. The difference from the past, particularly in the United States, is that the poor now include millions of people who have been educated as middle class. The U-turn does not appear to be a temporary phenomenon, with income disparity and the proliferation of badly paid jobs expected to continue in the next decade (Harrison; Bluestone, 1988).

The U-turn has also occurred in Latin America, except that one sector of the population probably never started the first stage of the upward trend. The informal sector shows an uninterrupted rise over the last 15 years; the average industrial salary in 1994 was still 14 per cent below that in 1980, whilst the minimum salary was 27 per cent lower on average. In Mexico, the minimum salary reached it greatest buying power in 1976. The minimum salary corresponds to the weakest sectors in the labour market, partly because of the low level of education.

In the debate on where to start the effort to increase the educational level of the population, there are those who think that elementary education should have priority. The argument is that faced with scarce resources, emphasis should be placed on the people who have the longest working life ahead of them. This means, implicitly, that we accept a "lost" generation and further, that it is not worth investing in people who have more than half their productive life behind them; a conclusion that could be justified technically but which would not be socially desirable.

What would be the educational and training needs of a population working in the informal sector? The desired path would be to move from informal to formal employment or alternatively, to develop the informal condition towards a formal activity. Given that the first option is not very promising in present circumstances, the second has a better outlook, although it is still very difficult. Once again, we can distinguish between strategies that seek to link informal activity with the formal sector, or else to promote associations between informal businesses.

On the basis of experience with firms of a social nature, one is tempted to think that there should be a reasonable balance between business know-how, which is normally oriented towards short-term results, immediate survival and individualistic strategies, and the social know-how of mutual support, interchange, solidarity and reciprocity. This would make it possible to take advantage of individual talents which, when combined, can result in something more competitive than the sum of the separate elements.

A set of basic skills and knowledge, in addition to those mentioned earlier, have emerged from proposals made by medium and large firms. These basic elements of training should derive from the idea that people of working age will not all be part of a formal business organization or else that not all of their working life will be as an employees in this type of organization. The basic elements of training relate to the management and administration of small businesses, the exploitation of market niches which allow them to survive, and the quality of service with which they have to comply. In other words, a projection in miniature of the basic concepts of productivity and quality management.

Reference is also made to key survival factors, which are networks, interchange, reciprocity and solidarity; elements which are production objectives more than survival mechanisms, in which confidence plays a fundamental role (Lomnitz, 1975). *"Confidence is the cement that unites the members of the network, since it describes the psychosocial closeness capable of reducing the barriers to interchange and of promoting expectations of reciprocity. This is necessary given that reciprocity, unlike market interchange, is a non-explicit, non-specific economic relation, which is realized in a deferred, indeterminate period and which is always present in a social relation"* (ibid.).

These basic elements are characterized by openness and interaction, and the expected outcome of their application depends greatly on the context in which they develop. The training of a micro-business manager has to start from this context in order to identify what the market demands; in other words, a certain level of competence is needed, regardless of how it was acquired.

Opportunities for the micro-business manager depend to a large extent on confidence in technical capability, fulfilment of obligations and integrity in the market. The more transparent and shared are these factors of fulfilment for market agents, the greater the possibilities for developing the micro-business manager. Labour competence standards ensure that the market has confidence in a micro-business manager.

2. EVOLUTION OF TRAINING PROGRAMMES TOWARDS A LABOUR COMPETENCE FOCUS[5]

Latin America and the Caribbean have experience in adapting vocational training to the challenges involved in the transformation of production and the new demands of manufacturing industry. The sections below present certain important aspects of this experience.

5 For this section use was made of the contribution of Cinterfor.

2.1 Closing the gap between formal education and vocational training systems

There exists today a chance to close the gap between vocational training and formal education, because both are now applied to a common set of objectives and challenges in the new conditions of development. In this new reality, occupational training lasting a few months is not sufficient, nor is specialized preparation lasting several years.

Constant change and the high level of uncertainty in labour markets today require skills which demand a prolonged formal education - 9 or 10 years of schooling - which give students the capacity to understand the world around them, order their impressions, grasp the relationship between facts and observe and act accordingly. This requires more than simple memorization and the acquisition of mechanical skills; it requires knowledge which crosses subject boundaries and which can be applied in daily life. Such knowledge is reflected in the capacity to solve problems different from those presented in the classroom.

If we analyse the life histories of workers in different relatively skilled jobs, we observe that they follow different time scales in reaching an acceptable performance in similar positions. This analysis leads to the conclusion that training is a unique mixture, in each person, of formal education and on-the-job learning, in many cases complemented by informal training. There is no predetermined way of preparing workers for each job, but they have to acquire basic skills so that they will be able to learn and retrain as necessary.

These basic skills or competencies are called today “employability competencies” because they are necessary to find work in a modern labour market and to be able to train later. On the other hand, practical work experience is indispensable for all types of learning: related to the norms of a productive organization, everyday technology, and performance of specific tasks. Those who do not obtain skilled work (in other words, those who only perform occasional unskilled work and who find themselves unemployed for long periods) do not have the opportunity to train themselves through learning on the job and risk being excluded from the labour market. It is extremely important that a whole population should acquire these employability competencies, as much for reasons of equality, to avoid marginalization, as for reasons of productivity, so that the workforce can retrain to keep up with changes and new opportunities.

Basic education has an essential role, which cannot be delegated, in preparing people for work. Without these nine years of systematic schooling which allow people to acquire employability competencies,

they will find it difficult to enter the world of work, with a decent salary and the possibility of improvement.

2.2 Training and labour relations

Whilst the growth model prevailed, the function of creating human resources in industry was the responsibility of public institutions for vocational training. It was a function of the State.

The system of labour relations within the growth framework was characterized by negotiation mechanisms (often tripartite), which dealt mainly with the stability of sources of work, regularity and amount of salary increases, and social security cover (health and unemployment insurance, family benefit, etc.).

The changes noted previously with respect to globalization, the increasing importance of knowledge and technological factors in production processes, and the changing roles of the labour partners, have caused a significant shift in each of the dimensions of labour relations.

The concept of job stability is being replaced by a concern for flexible workers, better qualified and able to adapt to rapid changes in job content, thus ensuring their own stability within the labour market.

The systems that support social security services are in crisis in many countries, with consequent processes of reform. Whatever the solution adopted in each country, it is certain that good training will be the best insurance against unemployment.

In a similar way, discussions about salary increases, which are still governed by various forms of collective bargaining, now focus on linking pay to productivity, shifting the emphasis from factors such as seniority to variables such as experience and level of training.

Alongside these changes, the development of human resources has ceased to be a function of the state. Employers' and workers' organizations are increasingly interested in training, proposing initiatives for training institutions, creating their own training structures and formulating policies in this area. Given the increasingly central role of training, this becomes a fundamental subject for negotiations and labour relations.

2.3 Training as a part of the process of technological transfer

The classical, traditional concept of training sees it as the ordered and systematic transmission of knowledge, skills and abilities which permit workers to improve their qualifications. This view is superseded today because it isolates training, taking it out of the time and place in

which it occurs. Training programmes are planned in a way that does not necessarily link them to the work processes for which they are designed.

Training is conceived by the most innovative training institutions, technical schools and centres of technical education more and more as a support to the work process and technological innovation. The new conception is that training should be understood within the framework of a process through which workers receive an accumulation of scientific and technological knowledge linked to production. The educational institutions which define training in this way link their programmes to support and consultancy services for firms. Human resource development is thus one component of technological transfer, relevant to work organization, production, adaptation and innovation.

2.4 Training as an educational phenomenon, linked to productive processes

Innovative training centres or schools link the courses they offer to firms. SENAI technological centres in Brazil, and SENA in Mexico, for example, come face to face with firms through ambitious programmes of support and technical advice, technological information and applied research. In this new approach to training, students and teachers participate actively, providing feedback which allows programme contents and methods to be adapted and improved.

These centres radiate state-of-the-art technology to enterprises on the understanding that feedback will improve their educational capacity and favour high quality and relevant teaching. In other words: in spite of their investments and their new commitment to technology, training centres do not cease to be defined as educational agencies.

The offer of consultancy services is not conceived, centrally, as a new source of funding; on the contrary, it is a practice which brings training centres closer to the reality of production. Moreover, helping firms to solve problems benefits the training centre as well as the enterprise by increasing the academic base of scientific and technological knowledge, the critical mass.

2.5 Training for competencies

Traditional training programmes are conceived in terms of qualifications; programmes for acquiring skills usually have a behaviourist bias, in the sense that they are purely instrumental, and at best they are limited to a purely intellectual exercise. However, training institutions

and many technical schools now take other dimensions into account. They transmit not only knowledge and manual skills, but they also work on cultural, social and attitudinal factors which have to do with developing individual capacity.

The modernization of production, based on criteria of quality, productivity, efficiency and competitivity, cannot be achieved by a workforce trained for given posts. The contribution of modern training institutions is central to the generation of a new working and production culture; this can only be achieved through explicit training media -courses, programmes, curricular contents, methodologies- unless the environment and climate that training centres manage to develop make it possible.

In other words: training for the old schemes of Fordist and Taylorist work organization is not in a position to develop the new competencies required in a context of highly competitive, international trade; the reductionist focus of training for qualifications is surpassed by the new role of innovative schools and institutions. The reason is simple; "modern" competencies are not just taught in a course, but are the reflection of a production environment. They are soaked in the atmosphere of firms, in the codes of conduct and work which operate in reality, in the incorporation of working and production guidelines. To summarize: only a proposal which links education/training with work and technology, in a suitable environment, can transmit the values, habits and behaviours inherent in the modern competencies required by workers, technicians and professionals.

2.6 New institutional arrangements

Various training institutions have accepted the challenge of institutional transformation. This has a direct relation with the crisis in the old models of work organization and the impact of information technology, new materials and biotechnology. Modern training agencies have redefined their institutional arrangements: their objectives, functions and scope; their entry into the productive world, and their response to the demands of the labour market. The principal themes to which we will refer in the following sections are: sectoring, verticality and integrality.

2.6.1 ***Sectoring.*** One of the movements that is gaining greater acceptance in the Latin American region is related to sectoring; that is, the redefinition (or reconversion) of units (schools or centres or programmes) so as to respond to the needs of specific economic sectors. Traditional training courses covered a number of major areas (mecha-

nical, electrical, chemical, construction, etc.), while the current trend is to prepare workers for a given sector (graphic arts, leather goods, food, textiles, etc.).

This focusing of attention has advantages that are worth enumerating. First, there are real possibilities of participation for the partners involved in the work processes (workers and managers, through their organizations). A more limited group is brought together and the formulae for intervention feel more familiar. Second is the question of equipment: to the degree that attention is focused, the diversity of equipment required is reduced. This has also led to installing equipment not only for educational ends but also for productive ends (goods and above all services). The intensive use of up-to-date equipment makes it easier to cover costs. Third, sectoring gives rise to verticality; and last, it is planned within an integrality of actions.

2.6.2 *Verticality*. Traditionally the development of human resources was entrusted to distinct organizations: vocational training institutions, in general, were concerned with skilled and semi-skilled workers; technical schools attended to the intermediate levels of the job pyramid, and universities prepared professionals. As far as infrastructure and facilities allow, many schools and centres have accepted the challenge of training individuals at all levels of the job pyramid within a given branch of activity. Some centres offer training from the most basic levels up to postgraduate courses which are recognized all over the world. This development makes possible a continuity in educational and training services.

As a result, these institutions have a very different image from that of years ago: they have broken dichotomies and dualities; they have allowed the definition of programmes to be determined by productive and labour realities, not tied to rigid administrative schedules. By opening the institution to the different levels of the job pyramid, one of the oldest aspirations of permanent education is fulfilled: schools are at the service of all who need some sort of training.

2.6.3 *Integrality*. Another perspective opened up by new institutional arrangements is that of offering a wide range of services for the needs of the sector. That is, not to be limited exclusively to the development of human resources. To the extent to which they open their doors, schools and centres act as technological catalysts, as windows onto the latest developments in the sector, as spaces where equipment and laboratories are shared by students, teachers and managers. Training, education, work and technology are integrated. They are not fragmented in the way that led to the pattern of manual work vs. intellectual work.

Integrality implies knowledge and experience, backed up by equipment and laboratories, to train workers, upgrade technicians or update professionals; it also implies the possibility of responding to demands for information, support and consultative services, as well as demands for prototypes and new processes.

Integrality refers to the responses that specialized centres and schools are able to offer and to the elaboration of those responses jointly between students, teachers, consultants and enterprise personnel. This facilitates interaction with the production system and with the demands of industrial policy ; training and education based on principles of integrality are indispensable for developing the human resources needed by the labour market, as well as for transferring knowledge and experience and disseminating innovations within a given branch of activity.

2.7 Subjects and modes of action

Changes are also occurring in the clientele of the different units, which are no longer made up only of individuals seeking their services. The production unit (the firm) has started to emerge as an important user of a diverse range of services, not only training.

Alternative modes of projecting training institutions have also appeared. Although they continue to look for their students in the labour market, training centres are also starting to act through intermediaries; that is, they approach individuals and firms through chambers of commerce, local employers' and workers' organizations and, above all, through new forms of production organization such as "incubators"of firms with a technological base, business nurseries, industrial parks and science-technology parks.

To be more precise: in some innovations it has seemed that enterprises' primary need was not always training for workers and that updating / specialization / training needs ought to be conceived in terms of the global management of production. No less important, it seems that the training programme should include employers and managers as well as workers. The training of workers certainly has to be integrated into the planning of production as a whole.

This change of focus means shifting the emphasis on strengthening the supply of training to an emphasis on strengthening demand for training. From a situation where programmes are planned by the institutions, so that employers and trainees had to adapt themselves to the courses offered, there is a move towards the intervention of firms and workers in the design, implementation, assessment and adjustment of the new programmes. Ideally, the majority of training programmes

ought to be "one-off" events, consisting of responses to the needs identified by the firms.

This last point implies an additional advantage: training and consultancy mechanisms for micro, small and medium businesses become viable. For too long, small firms have not found a way to comply with the legal requirements concerning training activities, nor have they found mechanisms that could respond to their need for support. The new working mode, based on the integration of production, training and technological needs, expressed in the specific demand of the enterprise, allows known requirements to be satisfied, others as yet unknown to be detected and, what is most stimulating, it allows new demands to be discovered.

2.8 New directions in the case of Mexico: Towards active labour market policies

As a response to the limitations of the training system, an active labour market policy focus started to be promoted and applied in Mexico during the 1980s. The concept "active" is understood in two senses. The first is the direct involvement of the production partners in defining, executing and evaluating labour market policies, in this case, on training.

The second sense has greater scope. It refers to the concept of an active society, which emerged in an effort to focus the cost-benefit relation in labour market policies, particularly in social protection. Under this view, labour market policies and therefore training policies should pass from a static conceptualization of support for incomes, survival and protection to a dynamic orientation investing in the person, so that the individuals concerned can assume responsibility for protecting themselves (OECD, 1990).

The starting point was the need to give more emphasis to training at work, linking it to training for work. The two major programmes with this focus are in the Labour and Social Security Ministry, although they are linked with the educational supply generated by the Education Ministry.

The first programme consists of training scholarships for the unemployed (PROBECAT), created in 1984 as part of the emergency employment programme. The second concerns integral quality and modernization (CIMO), created in 1987 as an integral support programme for the development of micro, small and medium businesses. Both programmes have financial support from the World Bank.

Assessments of PROBECAT show that the unemployed have benefited from a reduction in the time taken to find work and an improvement

in hiring conditions. However, differentiated effects within the benefited population have been detected, giving rise to adjustments in the selection criteria, with a view to improving the economic and social returns of the programme (World Bank, 1994). Up to 1994, a total of 651,000 unemployed people had been trained and in 1995, 418,000 were trained to mitigate the effects of the crisis which exploded at the end of December 1994 (Comeproc, 1995).

The CIMO programme is the most obvious exponent of new types of training in the workplace according to the concept of active labour market policies, at least in the sense that it involves all the production partners, in this case mainly managers, in the definition and execution of the activities.

This programme is participative, decentralized, jointly owned, flexible, integral and institutionalizable. An important aspect is that programmes are not structured according to a determination of the needs of individual workers. The basic unit of reference is the business as a whole, which is considered the subject of training and sustainable development. This confirms that a prime condition of successful transformation is for a firm to have an integral vision of itself, and to encourage participation in the reorganization of production and labour.

The Training Promotion Units (UPC) are the operational elements at the heart of intermediate business organizations and they are located in one of the branches in the area. In 1994 there were 48 UPCs in the whole republic. The UPC and the enterprise jointly make a basic diagnosis and elaborate a programme for strategic development. Then the promoters make contact with suppliers of training and other support services for micro, small and medium firms in the region.

These two programmes (PROBECAT and CIMO) are complemented by other components, such as: strengthening state employment services, institution building and investment in training centres.

On a large scale, the complement to these two big programmes is the Educational Modernization Programme which was established in 1989 with the aims of improving the quality of education, especially primary, and raising the level of schooling of the population (Samaniego, 1994).

In the case of the National College of Technical Vocational Education (CONALEP), modernization took the form of a programme of links, designed to ensure the best possible coordination with the qualification and training needs of firms, being supported by local education commissions from the business sector (CONALEP, 1995b). Something similar is being achieved in labour skills training with the Cecati (Training Centres for the Industrial Worker).

These training centres face a double problem. On the one hand, a general oversupply of technicians is forecast, particularly in certain areas. A higher quality of graduates has been recommended to cope with this. It will probably be necessary to adjust the courses to make them correspond more closely to market needs. On the other hand, a lack of skilled workers and an oversupply of semi-skilled workers is projected, which will force CONALEP to give greater attention to training in the workplace in the near future (CONALEP, 1995a).

An important complement to active labour market policies in Mexico was the signing of the National Agreement for Raising Productivity and Quality in 1992, giving rise in 1995 to the creation of the Mexican Council for Productivity and Competitivity (Comeproc). Representatives of the world of work attended the signing ceremony, along with representatives from all public bodies related to competitivity and productivity. The objectives of this agreement focus on the problems of different sectors and the promotion of micro changes, with special emphasis on integral training, establishing a relation between greater training, greater productivity and better pay (Comeproc, 1995).

2.9 Standardization and certification of labour competence: Proposal to integrate active labour market policies

One of the characteristics of active labour market policies is the participation of the social partners in the design, implementation and assessment of the programmes. As a consequence, these programmes are defined in a decentralized way and their impact depends on the capacity of the partners to respond to improvements in productivity and training. However, the partners have developed little experience and vision in this respect. In the supply model (planning of human resources), they have to accept the programmes. In the demand model (active labour market policies), they become protagonists of the programmes. This is a new role, for which they do not have the necessary experience.

The government is left with the option of waiting until the partners react or of trying to stimulate them in their new role. Both strategies carry a risk. To wait for firms, unions, self-employed, unemployed, agricultural workers and labourers to react and organize themselves, could take a long time and give rise to an uncoordinated process at regional and national level. It could even result in the social exclusion of less organized and / or less economically strong groups.

If the government pushes the demand model there is a risk of guiding it too much, so that the partners do not identify with it as their

own activity but feel that they are being manipulated. This generates a lack of trust in the partners, especially managers.

The current challenge is to know when the government should be the protagonist in promoting a training activity and when it should leave the initiative to the private sector. The transition of the model should be understood as an institutional learning process, both by government and by partners. In this process there will be mistakes, and progress will depend on the capacity to analyse feedback and adapt in response to experience.

Two tripartite proposals for institutional innovation have been put forward in Mexico. The first is the Mexican Council for Productivity and Competitivity, which originated from a survey of productivity and competitivity policies at national level and which led to the setting up of councils by state and by activity. The problem with these councils has been to define their role and their faculty and, secondly to develop instruments for organizational productivity strategies. Such instruments might include ways of measuring productivity, new concepts for management organization and models for on-site training, amongst others.

At institutional level there is a proposal to standardize and certify labour competencies. Faced with the increasing need to encourage training in firms to improve productivity, the absence of criteria and recognition for demonstrated skills and knowledge is clearly a problem. Greater standardization and certification would help orientate both the

In theory, the advantages of standardizing *competencies* are:

1. To integrate government training programmes into a single system.
2. To respond to the need for qualification of individuals and firms.
3. To provide a common language for firms and those who develop human resources.
4. To facilitate the preparation of training modules at different levels.

The advantages of *certifying labour competencies* would be:

1. Recognition of the skills and knowledge of the individual.
2. Elimination of income barriers, both for labour markets and for formal training services.
3. Identification of flexible routes for an accumulation of knowledge.
4. Support for taking decisions in the labour market.
5. Reduction of transition costs in the labour market.
6. Promotion of horizontal and vertical labour mobility.

Source: Ibarra, 1996.

firm and the worker in the training effort. The counterpart to standardization is the fear expressed by managers of the introduction of rigid schemes which do not adapt to continuous changes in the firm or which are limited to the needs of one enterprise in particular.

In order to avoid this rigidity, the basic criterion in the definition of competencies is transferability between firms, starting with those which belong to the same branch of activity. The second criterion is the possibility for continuous adaptation in response to changing situations in the firms.

The construction of standards for labour competence will have to correspond with the strategy of innovation in work organization followed by the firms. In standardizing competencies one of the challenges is to create a model which reflects simultaneously the simplification, expansion and enrichment of tasks, in a form that can be reproduced easily and at low cost. This would be the basis of the system. However, in order to work from this universal base in directing the expansion and enrichment of tasks which must be determined by the enterprise context, the expanded and/or enriched aspects have to be limited in each phase. The ideal form would be a modular scheme which would fulfil the need for adaptability in training and standardize curricular development.

The standardized model of labour competencies would be closed on both the demand side and the supply side. Knowledge, skills and abilities practised in firms would lead to a form of standardization which follows innovations in the organization of work, expressed in the simplification, expansion and enrichment of tasks. On the other hand, training for and at work, through training courses and technical education, is oriented to the standards that apply in production practice.

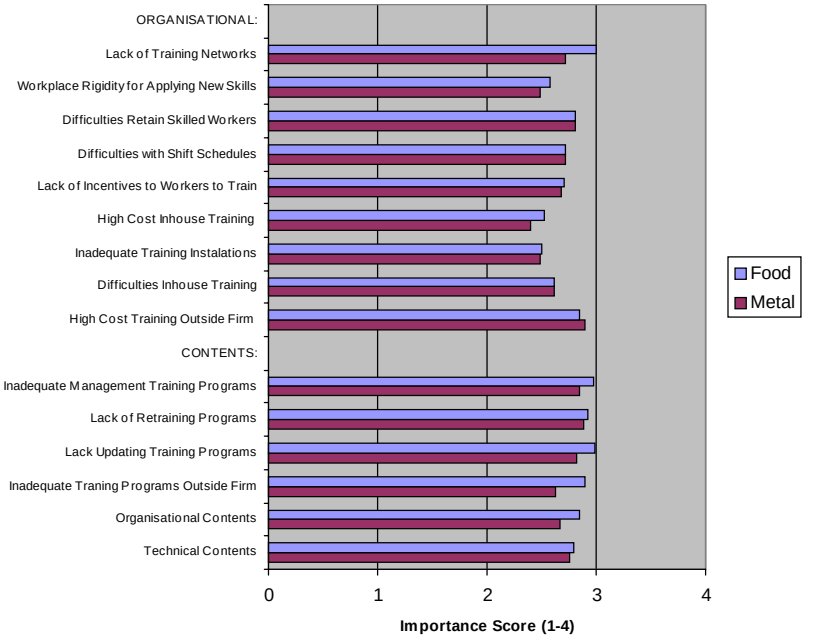
3. SOCIAL PARTNERS AND LABOUR COMPETENCE

3.1 Management perspective

For managers, human resources have become the essential factor in productivity and competitivity strategies, at least in theory. In practice this is still not seen clearly. In the firms studied in the Latin American project, human resources were not found to be a priority in the productivity strategy. On the other hand, a correlation was found between improved productivity and greater effort in training, and also between training and the number of innovations in technology and organization. This type of correlation has been found worldwide (World Bank, 1995).

However, other studies have not shown a direct relation between innovations in the management of human resources, which embrace the concept of extensive training, and enterprise performance (Betcherman, Leckie, 1994). If the relation between training and improvements

TRAINING PROBLEMS
Food and Metal Industry (1989-1995)
(Nfood=126; Nmetal=179)



In both industries, there is an absence of training programmes for updating skilled workers, an absence of retraining programmes for technological change, and inadequate management development programmes. That is, there is difficulty in establishing a dynamic of continuous learning, to which are added the difficulties of orienting training to technological and organizational needs.

On top of the problems of content are organizational problems. The high cost of training and the difficulty of retaining skilled employees stand out; within the firm there are the questions of making the training timetable compatible with the working day and the absence of incentives for workers to train. Also there is a lack of networks for managers to exchange experience, which is one way of learning how to train.

Source: ibid.

Some roles for managers were identified in Canada:
1. Defining curricula for basic qualifications and needs of the workplace.
2. Work practices for students and youths in general, financed by firms.
3. Business awards for exceptional performance by training schools.
4. Use of firms' facilities for practical school experience.
5. Courses offered by firms and recognized by schools.
6. Cooperation by firms with vocational counsellors.
7. Presentations by firms about career planning.
8. Benefits of training at sector level.
9. Promotion of local suppliers for small firms.
10. Encouraging schools and training centres to adopt higher norms.

Source: CLFDB, 1994.

in productivity and competitivity were as direct as some have suggested, why do firms not undertake more training? The answer could be that training only makes sense if it is linked to innovations in technology and organization. Another point is that there is a limit to the number of hours that can be invested in training per capita. Although these elements play a part, there are other obstacles to training. These are partly of an external organizational nature, and partly to do with the internal organization of the firm and with the definition of content. In other words, there is a problem of know-how in the management of training.

The project showed that the difficulties are in three areas, in addition to underlying cost factors and the difficulty of retaining skilled labour. Problems also occur in linking training to the technical and organizational needs of the plant and to the continuous learning of personnel, including retraining. Another problem is the rigidity of the working day, which makes it difficult to draw up training timetables, and the lack of incentives for workers to train.

The underlying problem is rationalization, in the name of which firms take decisions on training investments. For a firm implementing

A clear example of market failure occurred recently in a new automobile plant which was set up in Mexico. Operators were taught a very complete system of quality control and were given a certificate on completing the course. Other firms in the area began to «poach» the workers who had passed the course, because it gave good results. The problem arose because the course was the property of the automobile firm and apparently they were not interested in sharing it with third parties. The reaction of the automobile plant to the poaching was to stop giving the course to its workers.

a strategy of quality and flexibility it is very hard to calculate exactly how much training is enough. It is known that firms which believe that their training satisfies their needs exactly, in time come to the conclusion that the training was insufficient. In the context of demands for quality, service to the client and adaptability, *"conscience about the cost and benefit of training efforts form more a part of the problem than of the solution"* (Streeck, 1992). Individual rationalization may give less than optimal results for the firm if there are no institutions which favour interbusiness cooperation. Analysts have identified at least two types of market and hierarchical failure related to a production model based on combining quality with variety; both types of failure are directly related to the system of labour competence (ibid.).

The first failure relates to the fact that the primitive market force is to eliminate the competitor. However, the primary interest of the firm can no longer be to eliminate competition or to incorporate other firms; the primary interest today is to form part of a highly diversified and polycentric economy. This requires elements which protect confidence and allow improvements in technological capacity, permitting firms to move from competition to cooperation; elements which permit strategic alliances that are particularly important to small firms which do not have the technological base of large enterprises, but which are very important for flexible production.

Labour competencies provide an opportunity for cooperation between firms in defining the common elements required by the market in terms of vocational training. In the long run competence standards and certification will reduce training costs because they will be widely taught; by the same token recruitment costs will be reduced because competencies can easily be compared (Levine, 1995).

The second failure is that market forces do not permit the creation of capabilities on a large scale in as far as a strong supply of highly qualified labour is concerned. In a context of restructuring, rapid technological and market changes, and also high levels of uncertainty, broadly qualified personnel are critical. Nevertheless, the costs and benefits of training are very difficult to calculate. A training culture is required which goes beyond evaluating the immediate benefit, but this demands in turn some minimum references with regard to the objectives of a given training effort. Competence standards can serve as a point of reference, as they lead to results and encourage firms to expand their training effort beyond their own immediate interests.

Apart from market failures, another obstacle to training is the lack of opportunities for learning how to train. Competence standards will help to direct and renew training systems, because they serve as an

element of comparison, a sort of benchmark. Nevertheless, the standard does not just drop out of the sky; it should be the product of active involvement by managers, a theme which will be analysed below.

Considering the market failures already mentioned, the problem is in starting up the system: competencies will help firms overcome market failures in terms of training, but at the same time, competencies are built with the active support of firms, which presupposes that these can see beyond the trap of these failures. This requires the selection of leaders who can demonstrate, but who need institutional support.

The competence standard, in theory, is a systematic response to both organizational and content problems, highlighted by the firms in the Latin American project. However, there is another possible interpretation: the competence system ought to study the problems that have been pointed out by managers in order to be of use to them. From the management point of view, the system of labour competence ought to respond to the issues which are currently a problem for training management. That is, it has to address technical and organizational change in firms, it has to provide a basis for continuous learning, it has to give parameters for the training of senior and middle managers, it has to be low cost, it ought to provide incentives for workers in the form of recognition given, it has to break rigid production practices which do not allow the application of knowledge acquired in training, and it should be formed out of exchange networks between firms.

Undoubtedly there are many demands, making the system of labour competence a complex one. The complexity cannot be reduced by means of a less complex system; on the one hand, it will require the selection, and on the other hand, the connection of the selected subsystems on a higher level of processing. Its application in organizations will involve constructing the routes of a learning process in order to reproduce this complexity and incorporate it as a reference in the organization's system. This process of construction also occurs when the firm wants to introduce the ISO 9000 management and quality control system and / or its variants.

3.2 Union point of view

From the union point of view, restructuring within firms has modified employability, that is, the capacity of a person to obtain high quality work, given the interaction of individual characteristics and the labour market. Put another way, employability is in a process of continuous change, which carries the risk that certain sectors of the labour force could be left behind or excluded.

The union movement in Canada has proposed the creation of a management tax, which would be used to fund training. Employers who offer training would be compensated from this fund (CLFDB, 1994). Canada also has bipartite (employer-union) sectoral committees which award a state subsidy equivalent to the cost of training to firms that offer broad, transferable training programmes.

In the steel industry a bipartite committee for Trade and Employment (CSTEC) was created whose objective is to offer services to workers made redundant by restructuring. It was set up in 1988 and its services include: a) personalized advice and counselling; b) seminars on personal objectives with regard to careers, financial planning and setting up small businesses; c) support for training; d) help in finding a new job; e) work placements. It is a private, voluntary organization, which provides a public asset, although it does receive funding from the State. The services are provided by union representatives and personnel managers at the local plant level; people who offer counselling have first-hand experience of the impact of restructuring and this has been one of the factors in the success of the programme (McBrearty, 1995).

In the autopart industry, the union together with the employers' association initiated general training for all workers which lasted 120 hours, spread over three years and given in local secondary schools. The contents centre on three themes: knowledge of the industry, technological preparation and communication in the workplace. In each of these areas the aim is to develop a critical vision from the union and management point of view. The certificate is recognized by the whole industry (Parker; Slaughter, 1994).

Training is a key instrument in countering the tendency to exclude and in improving the employability of available labour, although it is not the only determining factor. Training cannot substitute for other economic policies which promote employment, and neither can training by labour competence provide an answer to the employment problem. It is a very important condition for the creation of new jobs, but not sufficient.

The last point creates an important dilemma for union strategy: the fact is that a training effort does not necessarily translate into more jobs. This requires vision on the part of the union movement, with a clear understanding of the value of training and an acceptance that the benefits are long term. The majority of unions are not accustomed to taking such a long view.

Within the firm, labour competence not only opens up an interesting perspective for unions and workers in general, but also gives the possibility of collaborating with managers or employers in the search for initiatives.

Outside the firm, with respect to the local, regional or sectoral labour market, theoretically the union is the first to be interested in addressing the training needs of unemployed workers or those never incorporated into the formal labour market. In contrast to managers, unionists do not have the problem of market failure and they can play a positive role in creating and developing the tripartite institutions which favour the best possible functioning of the labour market.

Outside the firm, there are at least four subjects of concern for the union movement, which has high quality jobs as a final objective.

The first is a broad type of training-qualification for workers in order to guarantee sufficient mobility in the labour market. The second is the development of a proposal for unskilled workers in general and in particular for the unemployed registered at job centres, as well as for other vulnerable groups such as older workers and some youths. The third is a proposal for workers who have to be retrained. The fourth is equality of opportunity in training.

In putting the union strategy into practice, these four concerns are difficult to separate as pressure from members is brought to bear simultaneously in all these dimensions. The definition of competence standards could be a useful tool in addressing these areas of union concern. From this point of view, labour competencies are a means to achieving employability objectives. This requires the unions to participate actively in the definition and updating of competencies, so that they can serve as an active instrument in employment policies. An active union presence in formulating policies of training by competence implies a great deal of work and the will to experiment and learn from the experience of the grass roots of the union (Parker; Slaughter, 1994).

This requires a new union culture which not only incorporates the importance of training in the daily practice of the unions, but which

In a comparative study in six European countries of how their union policies on training have evolved to take on board the problems faced by workers with a low level of qualification, it was concluded that:

a) In many cases the unions are very efficient in representing interests related to vocational training and labour market policy within and between sectors. The greatest difficulty lies in putting high-level agreements into practice at the firm level.

b) Despite the fact that up to a certain point the unions take responsibility for improving access to vocational training for employed workers, this activity is drastically reduced where the unemployed are concerned.

Source: Rainbird, 1994.

also establishes the principles stated in the proposals for different groups in the labour market: skilled workers, unskilled workers, workers with obsolete skills. This is an identified need in Latin America, where union participation in training management is still very limited, particularly with respect to training for unskilled and / or unemployed workers.

Despite the general assertion above, it should be pointed out that different countries have different legal and institutional frameworks which give rise to considerable variations in the margin for manoeuvre. Unions in different countries are in different situations with regard to officially representing the interests of their members in vocational training and labour market policies. Furthermore, unions do not have the same capacity to represent the interests of employed workers and those on the fringe of the labour market due to unemployment (Rainbird, 1994).

III
Labour competence system: Analytical models

The labour competence system is made up of elements which constitute subsystems, with their own internal dynamics (self-referencing). This means that a definition of the labour competence system depends on the dimension of competence in question; training for competencies, certification of competencies, competence standards, or methodologies for identifying and constructing competencies.

Before analysing these subsystems of labour competence, it is worth asking how a concept is turning into a real system of meanings and beliefs today.

To answer this question we can make an analogy with the emergence of the quality concept in organizations. This concept has always existed as a parameter of the inherent properties of a product, and as such was integrated into the language of firms. At a given moment quality became central to the creation of competitive advantage in the market and started to become the basis for competitivity-productivity strategies on a wide scale. With time it has turned into a real system of meanings and symbols, becoming a trigger for change within organizations.

Nowadays, under the concept of "total quality" we understand many different things, but at the same time there is a set of common symbols and meanings that create a new paradigm for action. This means that at a given moment the basic aspects are no longer under discussion and are accepted by the labour and business community; they are established in the language of business and they are here to stay (Mertens; Palomares, 1993).

The concept of total quality started relatively loose, with various interpretations and approaches, and in many cases, with a discussion which was much more far-reaching than the reality in firms. Nowadays, the movement has been structured with the appearance of ISO standards, awards for quality and the updating of standards.

The analogy also arises at the level of interpretation. In terms of quality there are schools of thought that argue strongly amongst themselves (for example Duran, Crosby). There are many models, and national differences arise because of idiosyncrasies, because of the nature of the country's social institutions, because interpretations in the union movement differ from those of management, and also because of the evolution of quality models.

The reasons for the present emergence of labour competence in terms of the "real world" of firms and the labour market have been presented in previous chapters. They derive from the logic of transforming the productive apparatus and the corresponding labour market.

This section deals with interpretations in general terms, and the following chapter looks at some of the institutional models that are in practical operation.

The interpretation of competence in this study is not in terms of definitions, which can be found in the literature that is already circulating worldwide and which will surely expand in the next few years. The present study discusses how the concept of competence can be understood in its different manifestations, permitting the orientation of future action related to labour competence.

A British specialist with practical experience in the implementation of competence schemes in firms comments that under the umbrella of competence there is a great divergence in approaches, definitions and applications. In his view, academics discuss the abstract definitions of competence, qualifications and tasks and pay little attention to developing a framework of practical interpretation. Firms need this framework because it is in the real world of production that terms are mixed and confused (Roberts, 1995-96). This occurs in the United Kingdom, which is a protagonist in the development and application of labour competence.

The points mentioned above suggest that there is a diversity of conceptual and academic interpretations, which have sometimes provoked a debate far removed from practical models for installing labour competence systems in firms. For example, some authors maintain that the important element is the classification, because this facilitates a practical and balanced system (Roberts, 1995-96). The objective of this study is not to enter into the details of the debate but to rescue those elements which are or can be important to the practical model which defines competencies.

«It is argued that the focus of education and training based on competencies potentially constitutes a coherent framework for the learning and development of an ability. However, there are different ways to conceptualize the nature of a competence. If the appropriate one is not adopted or if the norms developed are not adequate, then not only will the given potential not be developed but, in the medium term the development structure of the skills will be affected.» (Gonczi, Athanasou, 1996)

1. FROM QUALIFICATION TO COMPETENCE

By qualification we understand the knowledge and capacities, including models of behaviour and skills, which individuals acquire during socialization and education-training. It is a sort of "asset" which people have and which they use to carry out certain jobs (Alex, 1991). It can be defined as the "***potential*** *capacity to carry out or realize tasks corresponding to an activity or job*".

Competence, on the other hand, refers only to certain aspects of this store of knowledge and abilities: those which are necessary to arrive at certain required results in a given situation.[6] It is the "*real* capacity to achieve an objective or result in a given context". "*The concept of competence refers to the real capacity of the individual to dominate the set of tasks that make up the concrete function. The technological and organizational changes, as well as the modernization of living conditions in work, oblige us to concentrate more on the* ***possibilities*** *of the individual and on his capacity to mobilize and develop these possibilities in concrete and evolving work situations, which takes us away from the classic job descriptions*" (Reis, 1994).

To identify the *qualifications* required in a job or in the labour market, the method that used to be followed was occupational analysis, whose

6 This definition does not consider *a priori* transferability or portability as a condition of the competence. There is a debate on whether transferability should be part of the definition or whether it should be considered as an attribute *a posteriori*. In the first case, the definition would be widened to "similar circumstances".

''The systematic use of a new concept which fulfils the requirements to substitute those which were used previously, gives a new direction to empirical research, feeds representations and justifies political measures. In our case, the concept of competence, already rich in ambiguities, is charged with new meaning, arouses curiosity, performs multiple functions and is generalized in diverse settings. It is imposing itself on investigations carried out in the areas of work and education as well as in discussions of involved parties, and inspires measures in the areas of work and training''

Source: Alaluf; Stroobants, 1994.

Competence implies a new type of worker. With Taylorism the *homo economicus* predominated, that is, the worker guided by his interest in maximizing his salary. With the theory of human relations a type of *homo sociabilis* emerged, driven by a logic of feelings. Today the *homo competens* appears, whose behaviour is motivated by the enrichment of his list of competencies.

Source: Alaluf; Stroobants, 1994.

objective was to list all the tasks that made up an occupation. The inventory of tasks was the point of reference.

To identify the *competence* we start from the results and the desired objectives of the organization as a whole, from which the tasks are derived and hence the knowledge, abilities and skills. In this case the tasks are conceived as a *variable* medium between the result and the endowment of knowledge and abilities of the individual. To avoid interference and reductionism by defining the tasks first, a direct connection is sought between results and endowment of knowledge and abilities.

In an environment of continuous technical and organizational changes in firms, the tasks also change. On the other hand the objectives are generally less variable, although they tend to be more and more demanding. It makes more sense to use them as a point of reference for the knowledge and abilities required than to use the tasks.

Furthermore, in the face of superimposed and complex objectives, the multidirectional relationship between the task and the result disappears, opening up the possibility of a wider diversity of options for achieving a given result, due to the learning processes which forge the processes of change. "*To the degree that a greater importance is given, on the one hand to training in general and on the other hand to the evolving character of the demands of tasks and the mobility of jobs, the concept of competence tends to impose itself in the terminology to the detriment of qualifications, and the list of competencies competes with the educational degree*" (Alaluf; Stroobants, 1994).

2. OCCUPATIONAL CERTIFICATION

Occupational certification in Latin America and the Caribbean goes back to the year 1975, when Cinterfor-ILO, complying with the mandate of the XI Meeting of the Technical Commission, began a project on measuring and certifying the occupational qualifications acquired by workers through systematic training courses, through work experience or through a combination of the two (Cinterfor / ILO documents).

The desirability of this project emerged for the following reasons, amongst others:

- Vocational training institutions, in response to population increase and growing technological development, were faced with the need to broaden and diversify their programmes, in order to satisfy the demand for labour and improve the quality of training for the different levels of occupational qualification.
- The educational reforms implemented in recent years by the majority of countries in the region tend to validate the experience acquired by workers throughout their working lives. This requires adequate assessment procedures to determine the knowledge and abilities of workers.
- National employment services do not always have relevant information on the occupational qualifications of the economically active population or good estimates on the qualitative and quantitative requirements of the labour market. This means that they are unable to formulate indicators relating to the supply and demand for qualified labour.
- Finally, it is useful to establish basic occupational profiles at subregional level, to serve as a reference for designing training programmes with a common basic content and systems of certification that would favour the free circulation of workers.

These considerations, in addition to the fact that the knowledge and skills which workers apply do not come only from attending training courses, but also, and fundamentally from the experience they have accumulated in their daily work, led Cinterfor from the beginning of the project to define occupational certification as "*a process with the tendency of formally acknowledging the occupational qualifications of the workers, independent of the way in which these qualifications were acquired*"(ibid.).

In this context it was considered that **occupational qualifications** constitute the set of abilities, technological and other knowledge directly related to the job, which are essential for its satisfactory performance. The appraisal of these qualifications is carried out through the application of **occupational tests**, which verify the technological and operational mastery of the worker. These tests are designed to represent a work situation and their assessment is carried out according to "mastery indicators" specifically established for each element of the process.

The process of occupational certification is comparable with the teaching-learning process, inasmuch as both must be based on a study of work in order to identify the qualitative demands of the labour market. In this way they respond to the real, social and economic demands of

the community, by preparing people who have the capacity to integrate in the productive activity. These demands would be the reference for instruments designed to measure occupational qualifications for certification purposes and for designing the training programmes that institutions offer. Similarly, the results of permanent assessment during training, and the diagnoses obtained from occupational tests, are established with an essential orientation to developing complementary training activities that lead to occupational mastery.

Therefore the process of occupational certification must be considered as a **training strategy** and not just as a statement of possession of certain labour competencies; much less should we expect a simple endorsement of some aspects of the worker's knowledge with respect to the demands of a job (Agudelo, 1993).

Consequently, a process of certification must be conceived with the aim of ensuring that workers reach the occupational mastery required. In itself this provides information corresponding to the qualitative demands of the job in order to guarantee the reliability and efficiency of the process in responding to the expectations and needs of workers and firms. Furthermore, as a result of its application, it will help to find institutional mechanisms which permit the competency standards established by the labour market to be correlated with the objectives and contents of the training programmes, at the same time as providing information to employment services for a more rational distribution of qualified labour (Barbagelata, 1979).

The Cinterfor certification process was made up of four stages, in which representatives of workers' and employers' organizations were expected to participate actively:

- Analyse the occupations which are the object of the certification.
- Identify the operational and technological skills which are considered "indispensable occupational requirements".
- Design occupational tests to evaluate the worker's technological and practical mastery of the required skills.
- Establish the occupational profile of the workers, by comparing their practical and technological knowledge with the job profile, in order to ascertain weaknesses. Where skills are inadequate they can be strengthened to achieve the level of competence needed for efficient job performance.

The methodology for measuring occupational qualifications and the certification procedures generated by the project have been applied in different countries of the region; in some with the specific objective of certification and in others to control the quality of training processes.

Some countries have laws which institutionalize and regulate occupational certification (Barbagelata, 1979; Aldana, 1996).

In the proposal there is a move towards the concept of competence, because it includes proven abilities as well as knowledge. There is also congruence in the emphasis on know-how and performance, as opposed to knowledge for its own sake (Gallart; Jacinto, 1995).

The difference between these concepts seems to be clear: it lies between demonstrated abilities and knowledge on one hand, and the results demanded from the worker on the other hand. That is, the qualification is framed in terms of job performance, in compliance with the knowledge and skill standards, whilst competence is framed in terms of the results which the worker must achieve: knowledge and skills which ensure a desired product. Whilst qualification refers to the post, competency refers to the person, who may occupy more than one job.

In an environment which is relatively static and not very complex in task content, the two concepts may coincide. This is not the case when the worker must know how to perform several jobs, when the tasks

OCCUPATIONAL CERTIFICATION IN BRAZIL AND IN SENAI

In 1990 a significant step was taken on the road to quality with the creation of the Brazilian Programme of Quality and Productivity (PBQP), which was a Federal Government initiative with the objective of *"supporting the Brazilian effort of modernization through the promotion of quality and productivity of goods and services produced in the country"* (Brasil - Ministerio de Trabajo, 1990).

The PBQP, which has the backing of various ministries, businesses and institutions, including the SENAI, has a programme on the training of human resources within which the National Programme of Qualification and Certification (CNQC) is inserted.

The SENAI supports the process of **occupational certification**, offering assistance to the Associação Brasileira de Manutenção (ABRAMAN), to the Associação Brasileira de Ensasis Não Destrutivos (ABENDE), and to the Fundação Brasileira de Tecnologia de Soldagem (FBTS) in the certification of personnel in different areas. The SENAI implements training and administers the certification tests, which are supervised by the members together with the Offices of Certification linked to the National Council of Qualification and Certification.

The SENAI currently has four Qualification Centres (CEQUAL) in operation, in Río de Janeiro and in Bahía, which cover mechanical maintenance, electrical maintenance and welding, and other qualification units are being set up in various regional departments.

Source: SENAI-DN, 1995.

THE SYSTEM OF OCCUPATIONAL CERTIFICATION - SENAI

In Brazil, with the opening to the international market, there was an increase in demand for high quality products and competence. The country began to lower import barriers and open its borders, which stimulated the exchange of qualified workers amongst the countries that form this market.

In this context, the SENAI considered it important and timely to implement a **System of Occupational Certification**, taking into consideration that there existed in the country an increasing number of businesses certified or in the process of certification in quality assurance systems, which would require certification of the competencies of their workers. The certification system which was proposed by the SENAI was conceived to cater to demand in this area, attempting to reconcile the interests of industry and the aspirations of workers, which should be oriented towards development of the country.

Considering that the quality of products and services depends fundamentally on the quality of workers, certification had to combine two functions:

- one, as part of a training system, in the sphere of permanent education, it had to allow open and flexible access to employed and unemployed workers interested in improving their competence;
- the other, directed to the immediate need for certifying workers with occupational experience, in order to satisfy the demands of firms, derived from the standards established by the international quality assurance systems.

Source: SENAI-DN, 1995.

change and when the results depend on the interaction of different skills. What is required here is the ability to improve, where it is necessary to apply simultaneously different levels of knowledge combined with certain attitudes and social skills. Past experience demonstrates the capacity to improve. That is, *where the job does not necessarily correspond to the person and vice versa*.

Competence emphasizes three facets of ability: physical or manual; intellectual or mental; social or interpersonal. This does not mean that it ignores the body of knowledge required to develop these abilities but it does not place the emphasis there (Hamlin; Stewart, 1992a).

The difference lies in the concept of performance. During the 1960s performance was based on validating workers' qualifications, comparing them with the performance required in a job by means of prescribed tasks. That is, performance was limited to execution of the job, the task, as the last point of reference. Qualification defined in this way refers to know-how in the job, for example, the use of materials,

OCCUPATIONAL CERTIFICATION IN COSTA RICA

In October 1976 the institutionalization of occupational certification began with the creation of a specialized department in the National Institute of Learning (INA), whose principal objective is to administer the System of Occupational Certification throughout the country. In the first six years that the system was functioning, the INA, with the participation of workers and employers, updated work studies and designed occupational tests for 18 occupations pertaining to nine professional areas. During this period around 900 workers participated in the certification process. Based on the results of practical and technological tests, they received the necessary training to achieve the levels demanded by industry.

In 1983 the "Ley orgánica del INA No. 6868" was passed, which establishes (Article 3, paragraph d.) that in order to achieve its goals, the Institute has amongst its attributes:

"to develop a system to certify officially the level of knowledge and skill of the workers who take the tests in the areas that the Institute offers independent of the form in which this knowledge and skill has been acquired"

The Law provides that the tests should be voluntary, so that workers without a certificate will not be prevented from carrying out any activity for which certification of ability is not legally required.

It provides that the certificates will be free for workers and that whenever possible workers and employers will participate in the process of certification. Their representatives will be chosen from lists presented by trade organizations or by linking committees.

Source: INA, 1984.

operation of machinery and instruments. As mentioned previously, competence does not start with a pre-established task, but rather constantly redefines the task in terms of the desired results.

3. BEHAVIOURIST ANALYSIS AS A BASIS FOR LABOUR COMPETENCE

According to the analyst Katherine Adams, education and training based on competencies originated in the United States in the 1920s, although the modern competence movement started towards the end of the 1960s and beginning of the 1970s. One of its pioneers was a professor of psychology at Harvard University, David McClelland, who argued that traditional academic exams do not guarantee either job performance or success in life and frequently discriminate against

minorities, women and other vulnerable groups in the job market. He maintained that it was necessary to search for other variables - competencies - which would have some predictive value, or at least be less unreliable (Adams, 1995/96).

Following this line of thought a project was carried out in the United States to identify the attributes of successful diplomats. Applying a sample based on a previously determined criterion of effectiveness, *interviews on behaviour at determined moments* were carried out. The interviewees were asked to identify important situations in their work that had to do with the objectives of their function, and to point out the positive or negative results. Later, they were asked to narrate these situations in detail and explain what they did at each moment (ibid.).

During the next decade, the 1970s and the beginning of the 1980s, similar studies were carried out especially with managers. In the 1980s Richard Boyatzis was given the task of analysing whether a *generic* model of management competence could be arrived at. He proposed an explicit definition of the concept of competence: "*the underlying characteristics of an individual which maintain a causal relationship with effective or superior performance in the job*". From this point of view, competencies can be motivation, personality traits, skills, aspects of self-image and social role, or a body of knowledge that an individual is using (ibid.).

Effective performance is a central element in competence and is in turn defined as the achievement of *specific results* with *specific actions*, in a given context of organizational policies, procedures and conditions. In this sense competence is, above all, an *ability* which reflects people's capacity and describes what they *can do* and not necessarily what they do, nor what they always do, independently of the situation or circumstances (ibid.).

Defined in this way, competencies are those characteristics which differentiate a superior performance from a mediocre or poor one. The characteristics which are needed to carry out the job, but which do not lead to superior performance were denoted "*minimum competencies*".

Characteristics or competencies have a certain hierarchy or order: motivation and personality work on a subconscious level; self-image and social role are at the conscious level, whilst abilities are at the behavioural level. Knowledge has a profound impact on each one of the competencies (ibid.).

In order to arrive at a generic model of competencies for effective performance by managers, those not specific to a special service or product were identified. The results were five clusters with 21 generic competencies, of which 7 are classified as minimum and 12 as effective competencies. With respect to predicting effective management, it was

concluded after carrying out a verification study that: *"approximately one-third of the variation in the performance of a manager can be explained by these generic competencies, another third is explained by competencies specific to the organization and the post, and the last third of the variation is due to situational factors"* (ibid.).

It is estimated that in 20 years more than one hundred researchers have produced a total of 286 generic models; two-thirds of these are North American, and the rest are spread over 20 countries. Each model had between three and six clusters with two to five competencies in each cluster, with three to six *behavioural indicators*, which show the competency in the post. From this total of models a comparative analysis was carried out and as a result a *dictionary* of behaviours for effective management was formed from 21 competencies, with 360 indicators (ibid.).

The great difference between this approach and the functional analysis which will be discussed next, is that behavioural analysis starts

A GENERIC MODEL OF MANAGEMENT COMPETENCIES
by Richard Boyatzis

Cluster:	Competencies:
1. Goal- and action-management	Efficiency-orientation, proactivity, diagnostic use of concepts, concern with impact
2. Leadership	Self-confidence, use of oral presentations, conceptualization, logical thought (*)
3. Human resource management	Use of socialized power, managing group process, positive regard (*), accurate self-assessment (*)
4. Directing subordinates	Use of unilateral power (*), developing others (*), spontaneity (*)
5. Focus on others	Perceptual objectivity, self control, stamina and adaptability

(*) Threshold competencies.

The final competency in the model is specialized knowledge (a threshold competency), which forms a category on its own.

Source: Adams, 1995-1996.

with the *people who do their job well according to the desired results*, defining the post in terms of the characteristics of these people. The emphasis is on *superior* performance and the competencies are the underlying characteristics which cause people to behave in this way.

On the other hand, a functional analysis - the basis for competency standards in the United Kingdom (NCVQ) - describes the job or the function, composed of competence elements with assessment criteria which indicate *minimum* required levels. The objective here is to construct minimum bases for the effects of certification.

Another difference is that in behaviourism we identify the personal characteristics which cause the desired actions, whilst in the functional analysis of NVQ the competence is something which a person must do or must be able to do. It is the description of an action, a conduct or a result that the competent person must be able to demonstrate (ibid.).

The disadvantages or criticisms of the behavioural model are, amongst others (ibid.):

a. The definition of competence is so wide that it can cover almost anything, without identifying the motivations, personalities, social roles, abilities and knowledge that competent people have in common.

b. The distinction between minimum competencies and effective competencies is not very clear and in fact is simply a question of degree.

c. The models are historical, this is to say, related to success in the past, and therefore less appropriate to organizations that undergo rapid change.

At the beginning of the 1990s a report was prepared in the United States on the changes that must be made in schools so that young people could be better prepared to meet the challenges of competitiveness and productivity. It also attempted to define how workers will have to be trained and re-qualified for the advanced posts of the future.

The report was prepared by the Secretary's Commission on Achieving Necessary Skills (SCANS), which is an association of the Departments of Education and Employment and the Office of Personnel Management. It was based on interviews and discussions with a wide group of key informants in the business world, unions, academic institutions and specialists in the area (ACT, 1993). They were asked to identify *the principal* abilities needed to obtain employment. They defined two large families of abilities: *fundamental abilities* needed in all jobs as a minimum, and *competencies*, abilities that distinguish workers who achieve excellence.

Cross-occupational competencies

Three fundamental competencies:

Basic skills: reading; writing; arithmetic and mathematics; oral expression and ability to listen.

Analytical aptitudes: think creatively; take decisions; solve problems; process and organize visual elements and other types of information; know how to learn and to reason.

Personal qualities: responsibility; self-esteem; sociability; personal management; integrity and honesty.

Five competencies:

Resource management: time; money; materials and distribution; personnel.

Interpersonal relations: participates as a member of a team; teaches others; serves clients/consumers; displays leadership; knows how to negotiate and work with diverse personalities.

Information management: searches for and evaluates information; organizes and maintains information systems; interprets and communicates information; uses computers to process information.

Systematic comprehension: understands complex speeches; understands systems; monitors and corrects performance; improves or designs systems.

Technological mastery: chooses technologies; applies technology to the task; maintains and repairs equipment.

Source: SCANS, 1992.

These areas of defined abilities formed part of a new type of study of jobs and tasks. Fifty posts were analysed in five sectors of the economy and 200 workers were interviewed. The object of the study was to determine the abilities which comprised the list and to prioritize specified abilities in the job sample. The results describe how the classification of abilities is reflected in the job sample, which went from waiters to financial analysts, and how certain tasks can be classified by level of difficulty (ibid.).

However, the design and application of the study did not permit the detection of all essential abilities for each job. An existing taxonomy of abilities was applied (the SCANS) and the jobs and required abilities were not defined. This factor plus the fact that a reduced number of jobs and workers were analysed means that the analysis was not

definitive, given that time and resources did not permit a sample of occupations large enough to generalize for all jobs in the United States (ibid.).

The report recommended an empirical study of the framework of skills in order to give it a more solid base, before applying a system of assessment and administration of the identified skills. The National Job Analysis Study was designed to this end. In the face of constant change, cross-occupational skills become critical for the new workforce. The objective of the study is to identify skills common to all jobs, in particular those which are present in a high performance environment and which are necessary for business success.

For this, a quantitative analysis became essential in order to validate the taxonomy of occupations and jobs and also the definition of high performance establishments (ACT, 1995). The investigation was designed in two phases. The first was an initial determination of a set of key behaviours and an identification of the characteristics of high performance establishments. The second consisted of constructing an "anchor scale" of behaviours oriented towards high performance characteristics, using the results of the first phase as a base. The critical behaviours found in phase 1 will be put on a scale in terms of the complexity, knowledge, abilities and skills they require. In both phases, the principal research tool is a large-scale survey of workers, comparing the results and behaviour with high performance establishments (ACT, 1995).

Core competencies identified in 1,600 establishments (in order of importance)

1. Listening to the concerns of clients / customers.
2. Responding to the concerns of clients / customers.
3. Ability to use computers to locate, process or communicate information.
4. Safeguarding information and valuables.
5. Scheduling work activities for oneself.
6. Providing information to people.
7. Determining the priority of work activities.
8. Working with people in other departments to accomplish work.
9. Judging the importance, quality and accuracy of information.
10. Coordinating own work activities with the activities of others.
11. Listening to instructions from or concerns of supervisors or co-workers and responding .

Source: ACT, 1995.

4. FUNCTIONAL ANALYSIS AS A BASIS FOR LABOUR COMPETENCE

The theory of functional analysis has its foundation in the functionalist school of sociology, applied as the basic philosophy of the system of labour competence in the United Kingdom. Functional analysis originated in various attempts to review and adapt the training systems in that country. A basic document produced in 1980 inspired the New Training Initiative, which in turn led to the national system of labour competencies (National Vocational Qualification, NVQ) and to the corresponding national council (NCVQ), around 1986. According to some analysts, the official acceptance of competence was the result of the work of consultants in the Employment Service Commission, a public agency (Hamlin; Stewart, 1992a). The components of functional analysis were developed as limitations in the original model were observed.

Functional analysis has been adopted as the methodological and technical foundation of the new theory of social systems. In this theory, functional analysis does not refer to the "system" itself, in the sense of a state which must be conserved, or an effect which must be produced, but serves to analyse the relationship between the system and the environment, that is to say, the *difference* between them (Luhmann, 1991).

It follows that the functions and objectives of the business must not be derived from its organization as a closed system, but in terms of its relationship with the environment. The business is not a state which can be conserved by making it "function" as a closed system, but only as a relationship with the environment, that is, with the market, technology, social and institutional relationships. Consequently, the function of each worker in the organization must be understood not only in terms of its relationship with the environment of the firm, but also in terms of a set of subsystems within the overall system of the firm, where each function is the environment of another.

Functional analysis begins from what exists as a contingency, as a probability, and relates it to different aspects of the problem, which in this case is the particular result expected of the firm. It attempts to make the problem intelligible so that it can be resolved one way or another. The relationship between a problem or a desired result and the solution is not therefore understood in isolation; it also serves as a guide to investigate other possibilities, functional equivalencies (ibid.).

The explanatory value of the functional method depends on how the relationship between the problem and the possible solution is specified. The conditions which limit the range of possibilities indicate a causal relationship between the solution strategy and the results. At

the same time, an understanding of causality arises from comparing different relationships between problem / result and solution. Ultimately, the functional method is a comparative method, and its introduction prompts people to consider other possibilities by reviewing what already exists. It goes beyond the simple reproduction of the firm as a system, determining an intention and a perspective for observation (ibid.).

Translating this to competencies, the different relationships between results and abilities, workers' knowledge and aptitudes are analysed and compared We search for elements of abilities and knowledge relevant to solving the problem and carrying the system forward.

There are no absolute guarantees in terms of the correct method of proceeding in order to gain knowledge of labour competencies through functional analysis. However, the more diverse the circumstances which confirm the abilities and knowledge required of workers, the more value will the results of the analysis have with respect to knowledge of the *function*. Functionality, in spite of heterogeneity, is proof. *"According to an old and wise rule, truths only appear in context, whilst mistakes appear in isolation. When functional analysis manages to demonstrate connections, in spite of great heterogeneity and diversity of appearances, it can function as an indication of the truth"* (ibid.).

This introduction to the basic principles of functional analysis helps to place the functional methods followed with respect to labour competencies, and to trace their evolution.

Functional analysis in the British system of competencies (NVQ) starts from identifying the principal objectives of the organization and the occupational area. The next step is to answer the question: what

Levels of national qualifications (NVQ):

The framework of competencies / qualifications is made up of five levels which cover the most basic minimum up to professional standard.

The higher the level, the more evident the following characteristics:

- width and scope of competence;
- complexity and difficulty of competence;
- requirements for special skills;
- ability to carry out specialized activities;
- ability to transfer competencies from one work context to another;
- ability to organize and plan work, and
- ability to supervise others.

Source: NCVQ, 1991.

must happen in order to achieve this objective? The answer identifies the function, that is to say, the relationship between a problem and a solution. This process is repeated until we arrive at the required detail. The systematic approximation ensures that we do not lose sight of the objectives of the activities. (NCVQ, 1991).

In order to avoid specifications which are too closely linked to the job, the task, the activities, the processes and abilities, and the role of the worker, the standards must be proposed in terms of the wider functions to which they refer. The NVQ proposes from the outset that at least four components or families of competencies emerge from an adequate analysis (ibid.):

- results of the tasks;
- management / organization of the tasks;
- management of unexpected situations;
- environment and work conditions.

With these *obligatory* elements that must appear, the NVQ provides the motivation for a new work organization on site.

The chief characteristic of the functional analysis proposed by the NVQ is that it describes *products, **not** processes*; the stress is on results, not how things are done (Transcend, 1995). Each work role is broken down into units and each unit into elements of competence, following the principle of describing the products at each level.

At first, the standard of competence was defined only on the basis of performance at the level of the element. This brought about the problem that it was open to different interpretations depending on the situations and conditions covered by the element (Jessup, 1991). To counter this problem, the element of competence was complemented by a *statement of range* which specifies the range of contexts and circumstances in which workers must demonstrate that they can achieve the performance criteria.

However, it seems that there were still differences between the interpretation and the assessment. Furthermore, the performance criteria did not give sufficient elements to define the required training curricula. Therefore, other specifications were added to the standards: the knowledge and understanding which the worker must contribute to satisfy the requirements of an element (Wolf, 1994). Some aspects of the possible solution were incorporated in order to obtain the desired results.

Since the extracted knowledge allowed for very different interpretations, *lists of knowledge* were elaborated. The transparency of the assessment requirements was also questioned. Because of this, lists of "assessment specifications" were also added to the norms used by the assessment and certification bodies (ibid.).

The competence elements are grouped in units and these in turn form a competence *qualification*, known as NVQ. By the end of 1995 more than 800 active NVQs were registered and a million people were certified under a NVQ (NVQ-Monitor, 1995).

The most serious criticism of the methodology behind each NVQ is that it verifies *what has been achieved* but does not identify *how it was done* (Hamlin; Stewart, 1992b). In the same vein some Australian analysts criticize the NVQ approach, arguing that the underlying attributes of knowledge cannot be isolated from the actual work practices. Attributes such as knowing how to solve problems, knowing how to analyse, knowing how to recognize structural patterns, are very dependent on the context, and therefore attempts to teach them out of context would not make sense (Hager, 1995).

In various publications concerning NVQ, the need to break down the competence standards into abilities, knowledge and principles, and to present a sequence, is discussed, but apparently the complexity of curriculum development was underestimated. It was expected that in the absence of a model, many possibilities would arise reflecting the different areas where the education and training was carried out, but this has not happened. Up to now the best way to describe it is as a system of assessment lacking a coherent curricula framework; in fact the competence standards constitute the curriculum (Gonczi; Athanasou, 1996).

Furthermore, breaking down competence into units and these in turn into elements, which is the level at which standards are defined through performance criteria, means that the relationships between tasks cannot be considered and the possibility that they can be transformed together is ignored (the whole is equal to the sum of the parts) (Gonczi, Athanasou, 1996). "*Those who prefer this focus tend to consider that the curriculum has a direct relationship with the functions and specific tasks in the competence norms of the occupation. This focus has been adapted by many of the first British and Australian industries which developed competence norms*" (ibid.).

These analysts criticize the NVQ model for making a partial application of the theory of functional analysis. The desired results are identified and documented (description of the problem) together with some facets of the solution (underlying knowledge), but without reference as to how these two moments find each other. In terms of the theory and of what has previously been pointed out: "*the explanatory value of the functional method and its results depends on how the relationship*

between the problem or objective and the possible solution is specified. That is, which conditions are indicated to limit the possibilities, which means that we are appealing to causality between solution strategy and results". Furthermore, *"functional analysis starts from what exists as a contingency, as a probability, and relates it to points of view of the problem, which in this case is a given result expected by the firm"*, and finally, *"truths only appear in context ... and are the connections between diverse contexts which validate the function"*.

In the functional analysis proposed by the NVQ, these aspects do not appear and the relationship between the different subsystems, that is, between the different types of ability, knowledge and attitudes-aptitudes, is not analysed. The complexity of the world of work, which was one of the reasons why interest in labour competencies arose, does not appear in the relationships between these subsystems.

The Australian analysts mentioned above propose a modified functional analysis, more in line with the theoretical dimensions expressed previously. They analyse competence as a holistic or integrated relationship, incorporating the complex combination of attributes (knowledge, attitudes, values and abilities) needed for performance in specific situations. *"It is holistic in the sense that it integrates and relates attributes and tasks, it permits that various intentional actions occur simultaneously and it takes into account the culture and context of the work place. This permits us to incorporate ethics and values as elements of competent performance (...) and the fact that it is possible to be competent in different ways"*. (Gonczi; Athanasou, 1996).

This perspective has some important consequences for the concept of standard which is derived from it (Hager, 1995):

a) Performance is directly observable, while competence is not and does not allow the performance to be inferred. This is why competence is defined as *the combination of underlying attributes of a successful performance.*

b) The standards of competence can be established at various levels, according to needs; for example, at the entrance level, experienced worker, specialist.

c) The attributes of the practitioner and demonstrated performance in key activities are the essential ingredients of this definition of competence. This means that the attributes alone do not constitute the competence, neither does the mere performance of a series of tasks. Rather, this notion of competence integrates the attributes with the performance. This integrated conception means that competence incorporates aspects of knowledge, ability and attitude applied in the context of real, carefully chosen tasks which represent an appropriate level of generality.

A methodology which approximates the integral focus of competencies is known as DACUM (D*eveloping a Curriculum*). Originally developed in Canada and popularized in the United States, especially by the University of Ohio, DACUM models are used to construct curricula for training programmes, to establish assessment criteria and to identify training needs (Wills, 1995). The methodology is highly participatory and is developed with workers and supervisors in small groups where they jointly identify the processes, tasks and jobs and put them in sequence.

The method begins by defining the principal functions and/or objectives, which are noted on sheets of paper on a blackboard. Then the group places them in order and identifies the tasks which the worker carries out in each broad function category. These tasks are then analysed in terms of knowledge and required ability and finally they are given a score for frequency and importance. The result is a list of tasks and activities for a specific function, which can be used to develop training contents which are closely linked to the function (ibid.).

The DACUM methodology is based on three basic suppositions (ibid.):

1. Expert workers can describe and define their work with much more precision than any other person.
2. An effective way to describe the function/job is the definition of task performance by the expert worker.
3. All the tasks/functions demand a certain level of knowledge, ability, tools and attitude for an adequate performance.

The objection of the "integralists" is that, even though DACUM identifies many discrete tasks, this does not happen with the functions of the jobs and the results/performance. The list of tasks on its own does not allow the holistic focus to be constructed and it is difficult to contemplate elements of planning and management of the unexpected (Hager, 1995). It is a methodology which *"seems to be very useful for separating the different tasks of an occupational area, but not for establishing a link between them nor for relating the tasks and the attributes (knowledge and attitudes) on which they are based"* (Gonczi, Athanasou, 1996).

5. CONSTRUCTIVE ANALYSIS AS A BASIS FOR LABOUR COMPETENCE

A protagonist of this school of thought is Bertrand Schwartz, from France. The concept "constructivist" refers to "(...) *clarifying the mutual relationships and the existing actions between the groups and their environment,*

but also between work situations and training situations" (Schwartz, 1995). This method makes no separation between building the competence and the standard on one hand and implementing a training strategy on the other. Competence depends not only on the market function but also on the workers, their objectives and capacities.

In contrast to the behaviourist focus, which takes the best workers and managers or high-performance enterprises as a reference, the concern of the constuctivist methodology deliberately *includes* people of a lower educational level for the following reasons (ibid.):

First. Workers with a low level of education can only be placed in the labour market if their knowledge, experience, difficulties, disillusions and hopes can be heard, considered and respected. The constructivists reject the exclusion of less trained people, maintaining that they can be creative, autonomous and responsible. Related to this principle is the conviction that if you trust people and believe in them, if you give them the chance to learn on their own, almost anything is possible and they can learn a great deal, and rapidly.

Second. One of the foundations of effective training is the participation of trainees in defining the content of the course, i.e. in analysing the problem, so that the acquisition of knowledge is linked to its practical application. This is equally true of training for personal progress, developing the capacity to adapt constantly to everyday life, particularly to the evolution of working conditions. A strategy of alternating training is proposed with periods of theoretical training alternated with periods of practical training. This implies the participation of the world of work, which should collaborate in modifying limited tasks which are repeated at high speed, as such jobs do not develop or motivate the worker. Furthermore, when a person learns, a new competence arises. Instead of defining *a priori* to which level of competence workers will have to be trained, the complexity of the work situation is integrated progressively. This will induce new training which, in turn, favours the enrichment of work situations, anticipating the possibility that training will influence the qualification / work organization relationship. *"It is worth noting that this method differs from traditional learning in which we know beforehand the final trade as well as the order in which the contents of the corresponding training will be delivered"* (ibid.).

To administer this dynamic and interactive process, a guide to analysis is proposed for supervisors and workers. The key questions of this guide are: What new things have workers done during the reference period? What did the supervisors do meanwhile and what were they not able to do because of lack of time? The guide has a double function of regulating actions and identifying ways to proceed. But it can only

perform this role within a dynamic installed by the individual and collective involvement of the supervisors. However, this is not an easy process because at first they all live in fear of revealing their ignorance. When everyone realizes that they all share this fear, they can begin to work together.

Third. Individual training only makes sense within collective training: to satisfy individual needs it has to be given to all. Collective training means not only massive participation by trainees, but also considerable involvement of the work environment, from trainers to union organizations, from institutional delegates to families. We can observe a come-and-go phenomenon which explains the interaction: the environment influences training, which in turn influences the environment and becomes a determining factor in individual and collective life. The definition of competence must be proposed in this collective context, whenever possible, to achieve results.

Fourth. There must be an organization dedicated to defining competencies and related training in order to establish a participatory investigation. Tutors, executives, coordinators and workers must all participate in the selection of tasks. All the partners have their own concept of the job, as well as the training and its contents. They all have their own way of thinking, of analysing, and grasping situations. Permanent discussion is, therefore, indispensable for the coherence and progress of the investigation.

Fifth. It is important to break the short-circuits which are the product of the sequence: training first; responsibility and trust later. Making unqualified personnel responsible and offering them a real role helps them take a great step forward. Workers can acquire relatively complex knowledge without really mastering basic knowledge. This is largely explained by the motivation which arises when somebody is given trust and responsibility. Once this complex knowledge is acquired the usefulness of the basic theory is better understood. The order in which workers acquire theoretical knowledge is not always that which instructors consider the most logical.

Sixth. The identification of competencies and work objectives begins by identifying and analysing the *dysfunction* particular to each organization, which is the cause of unnecessary costs or lost opportunities. When the competencies are being constructed, many censure existing human relations and bad communication and criticize the structure in which the dysfunction continues. "*All are conscious that the major element which must be modified in order to progress are the conditions and work relationships. Some say that it is a previous and necessary condition for training. Why train if work conditions, relationships with senior personnel and other*

To authorize a worker with little training to handle a complex and costly machine is a display of confidence. The young person realizes this and is proud. From there on, he takes advantage of the opportunity, and does everything possible to deserve this confidence. The more he is consulted about his tasks and his training needs, the more he is requested to contribute himself to his training. He plays a part in his own integration and his motivation to progress will be greater. The fact that he is being paid attention, that his participation in the investigation is being valued, that he occupies a position is, unquestionably, the main factor of exceptional progress and his involvement in change. Once the first steps have been taken the phenomenon of interaction is produced: the more the worker is integrated, the more recognition he will receive in his position and the more rapidly he will learn.

Source: Schwartz, 1995.

services do not change?" (ibid.). Contempt discourages and when people repeatedly receive a negative response they finally stop trying. This is the explanation of many people's silence: they suffer because their knowledge is not taken into consideration, because their skills are not recognized. That is, competence cannot be isolated from the construction of a different organizational environment and from human relationships in the firm. Training and the definition of competencies, beginning with a study of the dysfunction, permits the generation of a motivating environment which is fundamental for learning because:

- it collectively helps workers in their analysis;
- they are really listened to;
- they can express themselves without fear of reprisals;
- it implies an open dialogue with senior management;
- it is possible to discuss, without this being systematically interpreted as a demand;
- the work organization does not "check" them but encourages them and motivates them to ask questions;
- they learn quickly because in reality they know more than they suppose.

Seventh. The definition of the competence and its standard occurs at the end of the alternating learning process and of the actions taken to counter dysfunction: it is a dialectic relationship between the collective training of workers and their effective participation, progressive and coordinated, in the modification of their tasks, their jobs and their interventions. In the case of an automobile firm in France, the workers and supervisors made up a list of learning objectives and identified how many workers mastered each one of the items developed (see box).

The list of learning objectives which workers defined in an automobile plant in France is made up of five categories:

1. *Basic culture:* oral expression; written expression; communication; logical and fundamental structures.
2. *Scientific knowledge:* mathematics; arithmetic; calculus; design.
3. *Organizational knowledge:* understand the prescribed organization and act on it.
4. *Technical knowledge:* use of instruments, tools, methods.
5. *Behavioural, relationship knowledge:* write a text with a group; organize a meeting.

Source: Schwartz, 1995.

6. STANDARDS AND THE ASSESSMENT OF LABOUR COMPETENCE

The standard is the reference for evaluating what the worker is capable of doing. The competence generally includes various types of standard, which can be reproduced in different contexts (jobs; firms) and which conform to the norm. The norm is then a set of standards valid in different production environments.

Traditionally in training based on supply, the standard originated in the educational institution itself, which placed more emphasis on theory and knowledge than on practical application in the workplace. In contrast, the competence standard starts out by putting knowledge and abilities into practice.

The standard constitutes the common training element needed for achievement of the firm's objectives. It does not pretend to be a sufficient condition; at most it aspires to be a necessary condition.

The definition of the standard and norm is the answer to the question "how good is good enough?". However, the term is used differently in the literature and in practice. The statements of standard are varied and include: *a) performance criteria* such as profit margins, production speed, mistakes, waste and others; *b) time definitions*, used frequently in training; *c) definitions of minimum standards and objectives* which are used for entrance levels and to obtain a certain level or type of recognition (Wills, 1995).

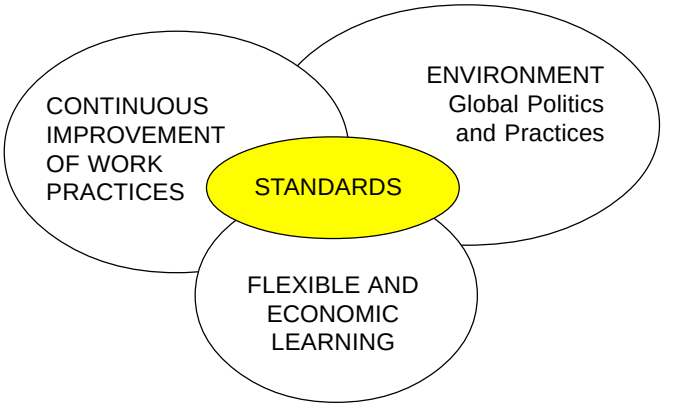
Their construction and definition depend on how the different contexts and situations are interpreted. The NVQ methodology in the United Kingdom proceeds in a different way from the behaviourist method practised more in the United States or the constructivist method which has been observed in France.

However the standard depends not only on the method, but also on the institutional framework in which it is introduced: a) national, sectoral or of the firm; b) national uniform and comprehensive basis (United Kingdom; Australia) or self-regulated by the market (United States); basis for an initial preparation, facilitating the transition from school to work (Germany, Denmark), or mobility of qualified workers (Japan, Canada) (ibid.).

Different types of norm with differentiated characteristics are derived from the three basic models of competence. The final product is a "hard" norm in the case of NVQ, because the criteria are direct results; a "soft" norm in the behaviourist method because it is an identification of attributes which ought to lead to superior performance; and a contextual one derived from the dysfunction of the firm.

Assessment is the complementary part of the norm and it refers to the evidence: it verifies whether the established specifications have been achieved or not. Assessment allows for comparison-discrimination between the groups, and measures the distance between individual

STRATEGIC ROLE OF STANDARDS



The production of competencies and appropriate motivations in the labour force is the most important challenge in the management of leading firms.

The pace at which a firm can respond to external changes, assimilate new technologies or take advantage of market opportunities, depends critically on *administrative* success in this area.

Source: Transcend, 1995.

performance and the norm. The forms of assessment range from daily activities to more complex statistical systems.

"Although all forms of assessment refer to the use of evidence, each form may have a different purpose. It is the purpose of the assessment which will define the nature and the process of the assessment system " (Hetcher, 1992). Assessment means gathering sufficient evidence that individuals can perform according to specified norms.

Assessment is a process which consists of a sequence of actions or events which are similar in all forms (ibid.):

a. Define requirements or objectives of assessment.
b. Gather evidence.
c. Compare evidence with requirements or objectives.
d. Form judgement based on this comparison.

In the traditional assessment which the educational system used to operate, the comparison of evidence with requirements or objectives is a *reference to the norm*, where an average achievement grade has been calculated beforehand, usually independent of the individual, and individual achievements are judged against this average, with performance awarded points according to the scale. In assessment by competencies, we are interested in comparison with the pre-established result, which is not the average of a group of individuals but which corresponds to the objectives of the organization. Consequently, it is an individualized assessment: the judgement does not compare one with another. Further-

DIFFERENCES BETWEEN NORMS ACCORDING TO THE TYPE OF COMPETENCE

FUNCTIONALIST	BEHAVIOURIST	CONSTRUCTIVIST
Norms of production developed and agreed on by the industry.	Groups of competencies developed by investigation based on excellent performers.	Competencies developed by learning processes in the light of dysfunction and including the least competent population.
Norms based **on** results (reference to criterion).	Norms oriented **to** results (validated by criterion).	Norms constructed from the results of learning.
Norms of occupational competence (real production on the job).	Educational process (development of competence).	Alternating learning process in plant.
Fixed mark of competent production agreed on by sector.	Specifications of superior production defined by educational investigation.	Specifications defined by levels achieved in plant by workers.
Product: hard competencies.	Product: soft competencies.	Product: contextual competencies.

Source: Hetcher, 1992: Own creation.

more one must comply with all the norms, there is no system of compensation between those fulfilled and those not fulfilled and the only judgement is to have passed or not. This offers a foundation for a permanent learning process, which would lead to more development and assessment. We are not interested in evidence of how much the individual has learnt (knowledge), but in the real production which is achieved, that is to say, the knowing how to (ibid.).

In contrast to traditional ways of evaluating occupations, assessment based on competence must be carried out at the work site. Supervisors generally evaluate workers. Supervisors must therefore understand the principle of assessment based on competencies and be skilled in the use of different methods: to plan assessment in a context based on competitiveness does not mean establishing a test of abilities or organizing an exam. It is an iterative process: the plan is continuously revised and updated as individuals develop and achieve competence (ibid.).

The most frequently used ways of evaluating competencies are (ibid.):

a. Observation of performance
b. Ability tests
c. Simulation exercises
d. Execution of a project or task

The NVQ norm for seamstresses, created by the Costume and Associated Products Industry Training Board (CAPITB, Great Britain) consists of five sets of competencies with their respective elements:

1. Create and maintain work relationships with third parties in a productive environment.
2. Contribute to a safe and hygienic environment.
3. Contribute to quality production.
4. Prepare and install sewing machines.
5. Operate the machine knowing how to sew seams.

The assessment process measures the competence of the operator in these five units. From the beginning, the assessor explains the assessment criteria to the operator and explains what is required and how long the assessment will take. The greater part of it is carried out by observing the operator in the workplace, with a weekly observation during ten weeks. The operator is also questioned to evaluate underlying knowledge in safety and hygiene and the names of the different parts of the sewing machine. When the candidate does not reach the standard, the evaluator explains why and what is lacking in order to achieve it.

Source: IDS, 1992.

e. Oral questions
f. Written examination
g. Multiple choice questions

Various types of evidence are used in the assessment:

a. Of performance
b. Of knowledge
c. Direct
d. Indirect
e. Of support
f. Complementary
g. Historical

The basic rules of assessment are: transparency, validity and reliability, whilst the evidence must be: valid, authentic, acceptable and sufficient (ibid.).

Three basic principles have been identified for carrying out an appropriate assessment of labour competencies (Hager, 1995):

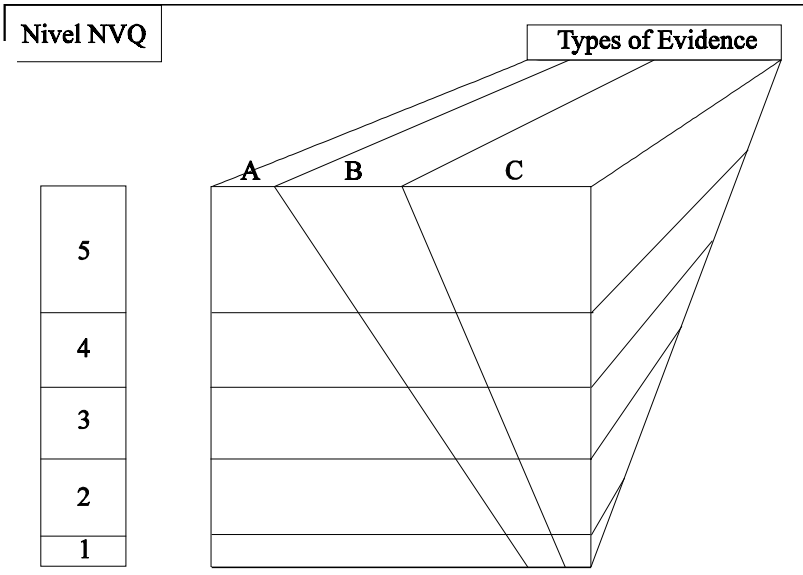
1. It is imperative to select the methods directly related to and most relevant to the type of performance to be evaluated. That is, to choose from the following groups of methods: i) question techniques; ii) simulations; iii) skill tests; iv) direct observation; v) evidence of previous learning.

2. The narrower the base of evidence, the less will it be possible to generalize the results to other tasks. It is recommended to use a mixture of methods which allows the competence to be inferred.

3. In order to cover various elements of competence, holistic or integrated assessment methods should be used wherever possible. This improves efficiency and validity and also reduces the cost of the assessment. Integration means the *combination* of knowledge, comprehension, problem solving, technical abilities, attitudes, and ethics in the assessment.

It has also been argued that the type of assessment varies according to the *level* of competence. For example, the British NVQ has five levels ranging from routine operations (level one) to the application of fundamental principles and complex techniques in contexts which are not predictable (level five). In NVQ assessments the evidence would move in parallel, from emphasis on direct observation of performance in the workplace (level one) to evidence inferred from activities carried out and the demonstration of underlying knowledge, comprehension and abilities through simulations and tasks (Hamlin; Stewart, 1993).

There are critical views of the theory and practice of standards, norms and assessment processes. We will mention a few that refer to the British experience with NVQ.



A = Competence directly observed at the workplace
B = Evidence inferred from completed activities
C = Underlying knowledge, comprehension and ability demonstrated by simulations and testing.

Different types of evidence would be appropriate according to the NVQ level.

Source: Hamlin; Stewart, 1993.

The first question is whether the focus is primarily on *developing or evaluating the competencies, or on both*. Is this a means of increasing paper qualifications in order to compare qualifications internationally? Will this not lead to a new bureaucracy of competencies? (Hamlin; Stewart, 1992a). Commentators assert that the NVQ system is not suitable for a focus on the development of competencies, because: i) it generates too much information; ii) it is repetitive between levels; iii) the organization of the information is too mechanical; iv) there is no distinction between attributes, attitudes and abilities, which makes it difficult to identify what type of standard it is (ibid.).

Secondly, they do not agree with national standards. What is the role of the worker, manager or individual according to these standards? The logic of performance standards is that all workers / employees in a similar occupation will have to perform to the same standard. This leads

to a society with organizations uniformly good or bad, performing to the same standards. This scenario begs many questions, including the nature of a competitive strategy based on the worker. If competencies are to be interpreted as minimum standards, then firms will try to increase and widen them according to their needs, so that there will be little difference from the existing qualifications (ibid.).

Thirdly, the NVQ proposal to carry out an *objective* assessment leads to two suppositions in practice. A subjective human being (a supervisor) is turned into an objective assessor with a minimum of training. This is an ingenuous proposal: human beings are and continue to be subjective; furthermore, this supposes that the objectives of the supervisor coincide with the national standards, and that they can be uniformly controlled and applied in firms. The proposal ignores the complex relationship between supervisors and workers; for both there is much at stake and many factors which influence the assessment. The second objection is that by extending the system, we do not solve the problem: for each candidate there is the assessor, then the person who evaluates and assesses the assessor and finally the person who validates and supervises this last person. With all of this, subjectivity does not disappear, but multiplies (ibid.).

Fourthly, a system of assessment based on national standards requires a sophisticated administration in order to avoid errors. A system of this nature involves cost and a medium or large firm would have to create its own system "in house", which would demand more personnel and therefore higher costs. The evaluators can be an additional cost factor. This, in turn, would generate more paper work and time invested in putting the system into practice. All this is justified if the benefits are greater than the costs, but at first glance the benefits would have to be substantial to justify the expense (ibid.).

Fifthly, we have the basic question of what causes performance. Is it: i) the individual's ability; ii) the individual's motivation; iii) the organization? Each of these factors consists of a set of elements and it is worth asking whether a definitive list could be drawn up to permit the achievement of a national norm (ibid.).

7. TRAINING FOR LABOUR COMPETENCE

One of the principal objectives of labour competencies is to help overcome the inertia or obstacles which up to now have inhibited firms from introducing dynamic training systems. This is particularly important in Latin America, where research indicates that training continues to be limited. This is partly because of the problems that firms

face when putting training programmes into practice. Sometimes they do not know how to direct training to meet the firm's objectives, sometimes also because training programmes involve cost and because of the fear that they might affect the whole salary structure. We referred to these problems in the first chapter.

Experience appears to confirm that the introduction of competencies in firms has placed training on the agenda. Even the most critical analysts of the NVQ system in the United Kingdom recognize that competence standards have helped organizations give more importance and a clearer profile to training. "*All initiative that has the effect of promoting discussion and leading to a decision of educating and training in work organizations is useful*" (Hamlin; Stewart, 1993).

Probably the main characteristics of training through competencies is the practical orientation and the possibility of continuous integration into the productive life of the worker. Competence implies solving a problem or achieving a result, which converts the curriculum into an integral education, by combining general knowledge, professional knowledge and work experience in areas which traditionally were separated (Gonczi, Athanasou, 1996). The advantages of a curriculum based on problem solving are (ibid.):

- it takes into account how people learn;
- it concentrates on genuine activities when deep learning is required;
- it gives more importance to teaching how to learn than to assimilating knowledge;
- it has more validity than a focus based on disciplines;
- it is more flexible than other methods.

Teaching through problems combines well with alternating training, which moves back and forth between classroom and practice. This addresses the problem of updating trained workers. It also permits a better response, as a firm, to workers' expectations in terms of salary based on achieved competencies.

Another characteristic is the possibility of individualized teaching and modular progress, which permit individuals to match their abilities to training needs. Testing is also more stimulating because the standard which must be achieved is not a secret but is known beforehand and this directs the learning effort.

The characteristics of training by competencies had been identified by researchers at the beginning of the 1980s. A recent investigation into the application of these characteristics in training programmes in Australia showed that putting the whole set of elements into practice is still limited. That is, even though some of the elements were found in training

Principal characteristics of a training programme by competencies

1. The competencies which students will have to achieve are carefully identified, verified by local and publicly recognised experts.
2. The assessment criteria are derived from the analysis of competencies, their conditions explicitly specified and publicly available.
3. Teaching is directed to the development of each competence and to an individual assessment for each competence.
4. The assessment takes into consideration the knowledge, the attitudes and the performance of the competence as a principal source of evidence.
5. The students' progress in the programme is at a pace which they determine and in accordance with the demonstrated competencies.
6. Instruction is individualized as far as possible.
7. Learning experiences are guided by frequent feedback.
8. Emphasis is placed on the achievement of concrete results.
9. The pace of the instruction is individual and not based on time.
10. Teaching is carried out with didactic materials which reflect real situations and work experiences.
11. The study material is modular, includes a variety of communication media, and is flexible in terms of obligatory and optional subjects.
12. The total programme is carefully planned and systematic assessment is applied continuously to improve the programme.
13. Frequent large group instruction must be avoided.
14. Teaching must be less directed to lecturing on topics and more to individual learning.
15. Facts, concepts, principles and other types of knowledge must be an integral part of the tasks and functions.
16. The participation of workers and unions in the training strategy is required, right from the identification of the competencies.

Source: Adapted from Harris et al., 1991.

programmes to a lesser or greater degree, there were few cases where all the elements were explicitly present (Harris et al., 1991). This requires that the education and training supply be simultaneously transformed in order to respond to the competence standards which are emerging.

8. STANDARDS AS A REGULATING INSTRUMENT IN THE LABOUR MARKET

The standard, especially at national level, would initially facilitate labour mobility and would generate clear information permitting a better functioning of the labour market, internally as well as externally.

However, as previously mentioned, this is only partially true because the standard is only an approximation to what an individual supposedly knows how to do. Regardless of this restriction we can put forward the argument that it is better to have some reference than none.

In terms of the internal labour market, it is an instrument which makes it possible to link training with other elements of human resource management such as the salary system, participation, promotion, as well as the improvement of work organization. However, in a country such as the United Kingdom competencies have still not been linked with the salary system and changes in organization and management (Roberts, 1995-96). Conferences on this topic were being promoted in business and administration circles in the United Kingdom by 1996, which indicates that competence is penetrating organizational management.

With regard to the external labour market of the firm, standards can be converted into dynamic information about what production demands in *terms of know-how*, thus guiding the training system. Standards also provide information about what workers know how to do. However, for competence to be recognized and understood by firms, a certain common basis of understanding is required, made up of signs which organizations adopt as their own. The challenge is to generate a system of *effective signs and symbols*, which can be employed by organizations as new elements in human resource management.

Certain structural factors can help make this system effective. These might include a common frame of reference; a certain degree of uniformity in the concepts; clarity, agreements and transparency in procedures; participation of the social partners; research on results, problems and methods of application; and mechanisms for an exchange of experience between firms.

This would improve employability, provided that the standards refer to transferable competencies and that the standards themselves are updated periodically. However, as pointed out in the first chapter, even though this would improve the possibility of people finding work, it will not solve the unemployment and underemployment problem which is very common in the Latin American region. What is needed is the development of competencies linked to the informal sector, a task which must be undertaken in countries where this problem is most acute, such as in Latin America. This is a titanic task which must be linked with other efforts to develop the informal sector.

9. CERTIFICATION OF COMPETENCE STANDARDS

The certification of competence standards is the last stage of the system of competencies. Not the final stage, but the end of the first "round" which repeats in time, because competencies have to be updated and because it is supposed that workers pass from one competence to another. In this sense, the certification of competence is an iterative process.

Certification has three basic moments. The first is accreditation of the competence, which means validating the construction of the competence and the elements which make it up, according to the definition adopted by the country or by the agency responsible for accreditation. The second is accreditation of the institutions capable of assessing candidates and awarding certificates. The third moment is the formal certification of the person who complies with the defined requirements of the competence.

The United Kingdom has developed a very complex and comprehensive system of certification. It begins with a tripartite body from the area or sector which chooses a nationally recognized certifying body. These two bodies develop the competence and submit it to the National Council. Once the competence is accredited, which takes a maximum of five years, it is promoted amongst training firms, colleges, and enterprise-based training centres, which operate as assessment centres. The latter are accredited by the certifying body to assess competencies. In turn they train a production manager and / or area supervisors in the competence and its form of assessment. All of this intimidates the worker who must develop a strategy to obtain a competence (Employment Department Group, 1994).

In the United Kingdom the certification organizations compete amongst themselves to offer different competencies and 135 were registered by the end of 1995 (NVQ Monitor, 1995). The certifying body must satisfy certain criteria in order to submit any certification to the National Council, including: a) quality of the assessment guides delivered to the centres; b) criteria for accrediting assessment centres, including evaluating procedures which must be observed (Transcend, 1995).

The certifying body must supervise the quality control of the assessment process. For this, it names external supervisors who are qualified as external examiners. Their function is to supervise the consistency of the assessment, carrying out samples of the assessment process, examining the registers, and visiting the assessment sites periodically. If the systems of quality control are totally operative, they inform the

The assessors are key people in a competence certification system. The selection criteria for assessors include the following:

- Experience in the occupational function.
- Experience in supervision / line management.
- Will to move the assessment forwards.

The last point is fundamental. If line managers are not willing to take on assessment, they will not do it properly and the credibility of the system will be threatened. It must be known why the supervisors are not willing: do they feel threatened by the new system now that their abilities or lack of them are to be exposed? Do they consider it as an extra workload?

A pilot programme can be tried to start with. Generally people feel less threatened and raise fewer obstacles when they see that a system really works and works well. The pilot project has to be planned carefully and everyone must know what is happening.

Source: Hetcher, 1992.

certifying body about any difficulty which arises and submit certification recommendations to the management of the certifying body (Transcend, 1995; Hetcher, 1992).

Within the firm a supervisor or internal examiner is designated, generally a person who works in the firm at the next level of management. The internal examiner checks the assessment and makes sure that quality control procedures are maintained. The internal examiner, in turn, is supervised by the external supervisor. This internal examiner must be qualified to carry out the task (ibid.).

The cornerstone of the whole certification system is the assessor who is in direct contact with the candidate or individual employee. The assessments require a very wide range of abilities, including: a) the ability to evaluate performance through observation; b) the ability to evaluate diverse evidence (documents, testimonials, knowledge and comprehension, portfolios, etc.); c) demonstrated knowledge of the occupation concerned. The requirements for assessors are normally fixed by the certifying body and / or the standards committee. In the United Kingdom there are five sets of competencies for assessors and supervisors: i) evaluate the candidate's performance; ii) evaluate the candidate using different sources of evidence; iii) verify the assessment process internally; iv) verify the assessment process externally; v) advise and support candidates to identify previous achievements. The evaluators must have the first two skills (ibid.).

This signifies that the training of assessors is a prior and very important task within the certification system. In particular, the following aspects must be covered (Hetcher, 1992):

1. Principles of assessment based on competitiveness.
2. The difference from other forms of assessment.
3. Utilising competence standards.
4. Rules of evidence.
5. Methods of assessment.
6. Room for flexibility and creativity.
7. Roles of assessors and individuals.
8. The structure of the guarantee of quality in which the assessment system operates.
9. Benefits of the assessment system.

The assessors also need support for the follow up and it is useful to establish networks of assessors and opportunities for the assessors to get together and analyse concerns, difficulties and successes. The networks offer an opportunity for assessors to analyse and identify any common training need which may arise, and to discuss feedback, assessment methods, interpersonal abilities, etc. (ibid.).

This reference has been taken from the NVQ model of the United Kingdom, which is totally articulated. The other extreme is found in the United States model, which has no nationally recognized knowledge base and which reflects the essential factors of a group of similar occupations. In the majority of cases the statement is still valid: "clients must watch that they are not tricked". That is, we cannot suppose that a person with a certificate has passed a test of abilities and knowledge in a recognized programme (Wills, 1995).

Even though the NVQ model is at first glance very comprehensive and congruent, it has also been the object of criticism. It may be supposed that the judgement of the assessor, which is the base of the system of NVQ certification, is a secondary question because the assessment criteria are specified with such clarity and detail that it seems that everything must function automatically. However, workplaces vary widely and therefore, each assessment process is complex, incremental and, above all, requires judgement. If the function of the sectoral bodies is to define and make the standards explicit, in practice it does not seem that this was so. *"In many cases norms are being created and, even though in given contexts they can serve as an appropriate mechanism to improve the practice of the sector, there exists the risk that many firms do not recognize or accept what is offered as a sector competence norm"* (Wolf, 1994).

The same line of criticism asserts that the supposed objectivity has led to a bureaucratic approach, as was mentioned in the section on evaluating standards (Hamlin; Stewart, 1992a). Another point is the training of assessors. In NVQ practice an induction of one or two days is mentioned, which seems very little in view of the complexity of the

themes to be confronted. In the case of a manufacturing firm, for example, supervisors received a one-day training as NVQ assessors and spent two and a half days visiting other plants. Based on this they received their certificates as assessors (IDS, 1992).

IV
Institutional models and the role of the social partners

Competence originates not only in technical and organizational changes in firms, but also in the failure of the educational system to adapt to changing needs. The competence movement started to gain ground first in those industrialized countries where the absence of links between the education system and industry was most evident (Canada, United Kingdom, United States), although the response was not identical in terms of the model introduced.

The case of the United Kingdom is eloquent in this respect. An official study published in 1989 revealed that two-thirds of the labour force had not received training linked to their occupation in the previous three years and that 32 per cent had never had a training course in the whole of their working life. Recent decades have witnessed constant concern about the failure to compete with European standards: the deficiency in labour training was placing the United Kingdom between the economies of highly qualified labour such as Germany, and those of low salaries, such as Portugal. On the one hand the United Kingdom did not reach the level of qualification to compete with Germany and, on the other hand, salaries could not fall to Portuguese levels (*Financial Times, 21 November 1989).*

In the 1980s, the labour competence movement started to gain strength in those countries with education and training systems which lagged behind. In contrast, during the 1990s, competence is a subject of

debate, although still without much force, especially in the Nordic countries. Several hypotheses can be formed from this differentiated behaviour.

The first is that countries which are relatively backward feel a stronger need to create new training parameters, and they are more stimulated to start a radical innovation in their training system as a result of the obvious and grave deficiencies that they are experiencing. With these radical institutional changes and changes of model, they attempt to make a qualitative jump forwards. Since this change of parameters is not a question of one single decision but of many which form a trajectory of institutional learning, these countries could generate a competitive advantage in training in the long term. In this line of thought there would be interesting possibilities for developing countries, which are characterized by severe deficiencies in the link between education and work: the faster they join the current of labour competence the sooner they will be able to improve their competitive advantage. This will imply the possibility of adopting entire models and trying to assimilate them more rapidly.

The second hypothesis is less optimistic with respect to the possibilities for straggling countries to make radical changes in their institutions and models. It stems from the idea that previous institutional learning is a necessary condition for setting out along new paths. Although the countries that have closer links between training and work have not taken strong action to join the labour competence movement, their learning bases are so firm that they will easily maintain a leading position, because their institutional precedents allow greater effectiveness with new training policies and systems. In this case, the outlook for developing countries relative to these will not change substantially, even if they join the competence movement rapidly, because they bring their deficient institutional capacity from the past with them. The possibility of transferring models will be very limited given that their institutional capacity and learning base do not allow them to assimilate.

The third hypothesis is that the environment does not allow alternatives other than labour competence. In this case, in order to gain a comparatively better position in the global market, two principles have to be fulfilled: a) make the institutional transformation to labour competence successfully, respecting and applying the basic principles well; b) introduce and push the *typical component of training and educational architecture* which distinguishes the country. That is, take advantage of those institutional and cultural resources which form its relative strength.

In this case, the different models are a reference, necessary but not sufficient, to make the transition to a successful competence model.

The discussion on which conceptual - analytical and institutional models should be followed in the area of labour competence focuses on the last hypothesis. Although it is difficult to separate analytical models from the institutional aspect, we have proceeded this way for reasons of presentation.

Amongst the institutional models that are being applied it is worth identifying at least three types with certain different characteristics: i) models driven by government policy; ii) models regulated by the market; and iii) models driven by employers' and workers' organizations. This classification is somewhat simplified; in practice the models overlap a good deal.

1. MODEL DRIVEN BY THE GOVERNMENT

Countries where the government has driven the labour competence system include Australia, Mexico and the United Kingdom. In these countries the starting point is a National Council which should give coherence to the system and coordinate efforts in this area. Although employers and workers are represented on the council, the initiative comes from government agencies.

In the United Kingdom, the system originated in attempts during the 1970s and 1980s to modify the training system. Some analysts maintain that the different initiatives which finally gave rise to the NVQ system were all driven by the government. Although the business community participated in these reform initiatives, they seemed more inclined to support the principle of standards than the concept of competence. According to these analysts, this is due to the fact that the principle of standards made it possible to cancel negotiations with the unions with respect to learning conditions, as at the time the aim was to erode union power (Hamlin; Stewart, 1992a). "*In the United Kingdom in the eighties the progressive abolition was brought about of tripartite sectorial training councils, which were empowered by law to raise a tax for training. In their place, local bodies were created to administer the labour market and business programmes, in which there exists a great imbalance between the representation of management and of unions in favour of the former*" (Rainbird, 1994).

In spite of weak formal representation of the unions in the NVQ system, many unions in the United Kingdom have demanded recognition of individual rights to the formation of training committees in the

workplace, although the aspirations for participation are much greater than collaboration in practice (ibid.).

On the other hand, the same analysts did not find an active participation by managers in the NVQ bodies, especially in the lead bodies. Apparently, the competence movement in the United Kingdom has not been the product of a demand expressed by managers and neither has it been a product of their growing active participation in the bodies. Those who are participating do so more for personal interest than to obtain the total backing of the firms they represent (Hamlin; Stewart, 1992a). These analysts relate the acceptance of standards by firms to the incentives and subsidies for training that are tied to them; if this government support did not exist, the degree of acceptance would be much less (ibid.).

Although these critical points of view will have to be analysed in more depth, they suggest that a coherent national model of this type has the disadvantage that employers and unions participate in a limited way and that the majority of initiatives are driven by the government, directly or indirectly. The competence movement would have conceptual cohesion but not necessarily social cohesion.

In the case of Mexico a tripartite national council for standardization and certification of labour competence started to operate in 1996. This is a government initiative which aims to achieve participation of the partners, stimulating demand for training based on competence norms and their certification, conditioning the support that it will offer in this way.

This council, like the other government agencies involved, works along two main lines of activity (Ibarra, 1996): i) the definition and integration of competitivity norms; ii) the establishment of a certification system for labour standards which has social credibility and wide acceptance in the labour market.

The proposed labour competence system consists of five principal components (ibid.):

- Define technical standards for labour competence by activity or occupational group. The social partners formulate these standards, with government support.
- Establish assessment, verification and certification mechanisms for knowledge, abilities and skills of individuals, independently of the form in which they have been acquired, provided they fulfil the technical standards of competence.
- Transform the training supply to a flexible, modular system, based on competence standards, to allow individuals to move between modules, according to their needs.

- Stimulate demand in order to promote the new system, seeking equality in the distribution of training and certification opportunities, attending to the needs of marginal populations.
- Carry out research to support the system as a whole.

2. MODEL REGULATED BY THE MARKET

This model prevails in the United States, where the American Management Association (AMA) together with the consultancy firm McBer developed the competence philosophy and the form in which it is currently applied (Hamlin; Stewart, 1992a).

The economic sectors of this country have driven the competence system towards a self-directed action in the hands of private enterprise. The argument for this institutional route for competence is that self-directed actions allow greater control and limitation of costs and avoid overbearing government regulations. Further, private control obliges providers of services which involve competencies to be closer to the changes which occur in the labour market (Wills, 1995).

The self-regulation of certification is a "typically North American" strategy in the world of labour competence. The promotion of a self-regulated certification programme is the task of managers and unions. Individuals must be stimulated to form part of the system and managers have to be encouraged to use certification in hiring and promotion policies and practices. One of the most notable characteristics of this model has been the participation of volunteers who have contributed time and energy to the efforts. Nevertheless, volunteers cannot take charge of everything and the majority of programmes are being converted into self-sufficient activities, charging fees for the distinct components of the certification programme (ibid.).

The participation of unions occurs where training is included in collective bargaining, in which case training programmes jointly administered by firms and unions are established; that is, when the workers are organized, which is more likely in industry than in other sectors of the North American economy.

Amongst the problems that have emerged with the model are (ibid.):

a) There is no requirement for an approved programme to include measures that ensure quality, such as performance tests, which has hindered "portability", equivalence and transfer of certification from one state to another.

b) Frequently, associations which represent one occupation in particular - above all professionals: doctors, lawyers, etc. – seek, in an aggres-

sive way, government protection to demand certification or licence as a means of controlling entrance to the trade, occupation or profession.

c) There is no conceptual framework or common language between the different certification programmes and the educational community in a wide sense; much less with the general public.

d) Few certification programmes are directed at young people entering the labour market.

e) Competition between professional associations to certify and accredit has become a problem: for example, there are 21 organizations which certify nurses; this proliferation has led to duplication of effort.

f) Accreditation bodies are reluctant to recognize certain courses in related fields or practical experience acquired on the job.

PIn response to the need to coordinate and standardize procedures for labour certification, the National Commission of Certification Agencies (NCCA) was set up in 1989. Like the American National Standards Institute (ANSI), the NCCA has guidelines for developing standards and assessment programmes, which can be used to avoid discrimination on grounds of gender, ethnic group or disability (ibid.).

THE FOLLOWING STEPS HAVE BEEN PROPOSED FOR THE DEVELOPMENT OF A VOLUNTARY SYSTEM OF OCCUPATIONAL STANDARDS:

a) Establish a framework for generating valid and reliable standards and assessment systems.
b) Establish common qualification levels, based on a progressively complex system of knowledge and skills.
c) Establish procedures for comparison (benchmarking) with standards from other countries, and for continually updating and improving this.
d) Establish criteria and procedures for bodies that develop standards.
e) Establish criteria and procedures for bodies which design and award certificates to ensure the quality of the assessment systems.
f) Establish procedures which ensure privacy of personal academic records as well as free access to standards.
g) Establish procedures for disseminating standards to employers and unions, suppliers of education and training, assessment systems and individuals.
h) Develop a strategy for sharing the resources required to maintain and drive the national competence system between government and social partners.

Source: Based on Wills, 1995.

As far as the future role of government is concerned, it is proposed that employers and unions continue to lead the development of standards, so that the business community will recognize the value of these initiatives for economic success and accept them as their own. At the same time, the Government should continue to facilitate initiatives and develop an organizational structure which allows the different parties to reach a consensus.

3. MODEL DRIVEN BY EMPLOYERS' AND WORKERS' ORGANIZATIONS

In this model, employers' and workers' organizations are the pillars of the training system and labour market policies. This model can be seen in one form or another in parts of Europe (France, Germany, Italy, Scandinavian countries) and in Canada, whilst in Japan the principal role in training is played by the business sector.

In Germany the social partners have a strong influence on initial vocational training, economic planning and labour market policy, although continuous training is much less regulated and developed, and remains in general the domain of the firm. This contrasts with the situation in France, where collective agreements, parity systems and representation are combined. In Japan, continuous training is closely linked to employment in enterprises (Rainbird, 1994; Carney; Fluitman, 1995).

The Canadian model includes a component based on the national and / or territorial sectorial councils, which explicitly combine training directed to the internal and the external labour market. This double modality distinguishes it from other models. Some of the basic principles are presented briefly below.

The bipartite national sectorial councils (NSCs), formed by representatives from management and workers / unions, have become a pillar of the Canadian Government's human resource development policy, with more than 20 councils set up by the middle of 1995. The councils emerged in the 1980s as an innovative way for employers and workers to transcend their traditional roles in the collective negotiation process. Since 1992 the Government has been promoting the NSC as a means of developing a training culture in Canadian industry, where there is a persistent underinvestment in the development of human resources (Finlayson, 1996; Wolfe, 1996).

The emergence of the NSC reflected the growing willingness of the partners to take on jointly several key aspects of training and personal

adjustment: i) the need to involve the unions more actively in training and adjustment; ii) the need to deal with these themes outside the limited framework of collective bargaining; iii) the fact that it is easier to avoid the problem of the free rider; that is, the firm that takes advantage of training provided by other employers, when the negotiation passes from plant to sectorial level (Wolfe, 1996).

The creation of the NSC signified a process known as *social negotiation*, which involves managers, union representatives, government officials and trainers. Social negotiation implies the conciliation of different interests which are not necessarily antagonistic. This means that the discussions are very different from the traditional collective bargaining to which the partners were accustomed (ibid.).

It is important to note that unionists and managers have different points of view with respect to training. The former introduced the concept of training based on the worker, which aims to maximize the workers' control over the tasks, deepening and not fragmenting their understanding of the work process, and placing decisions about learning for life in their own hands. An important point which the unions introduced was that training in the firm will only receive financial support from the NSC if it is "portable". Another critical element is to develop workers' capacity to take the initiative with respect to their own education and training (ibid.).

The NSCs give employers access to government funds for training and help them work jointly with unions in the definition of training. The NSC is responsible for drawing up training guidelines and ensuring that these are followed in the enterprises which request financial support. Although half of NSC funding comes from federal or local government, only employers and unions are responsible for administration. Links with government and educational institutions are essential for its functioning, but these have no right to vote on NSC decisions (ibid.).

In the communications, energy and paper industries, NSC funds are divided between four types of training (ibid.):

a) Upgrading qualifications directly related to the job: technical knowledge; basic skills; interpersonal skills.

b) General education: worker initiatives related to career development.

c) Group training: skills and knowledge related to the plant and the process in general.

d) Contingency measures in the face of plant closure and/or the loss of sources of work: advice, tutoring and training costs for workers made redundant.

In the last case, a team is set up with the aim of developing a local infrastructure, a network of programmes designed to help redundant workers find new employment. In the Canadian steel industry, more than 11,000 redundant workers were assisted between 1984 and 1994, although managers complained that the relocation cost per worker was high (Finlayson, 1996).

This model is interesting in that it explicitly includes workers at risk of redundancy, or who are already out of work. That is, it acts simultaneously for the improvement of the internal and external labour market.

If the development of national standards has been the aim of the Government's sectorial policy, this has not been echoed much by the business community, at least with regard to accreditation and certification. There is a fear amongst managers that the certification system may be too rigid to permit rapid adaptation to a changing technological, organizational and market environment. In addition, it is not attractive to firms which have based their competitivity strategy on superior training. In spite of these objections from the business sector, various NSCs have begun to consider that competencies are indispensable for the development of their training strategy (ibid.).

V
Conclusions

Labour competence must be seen as a *movement*. The concept opens up a new approach to administering and regulating the internal and external labour market of the firm, in the face of current changes in manufacturing. The principal characteristic of this transformation is the application of new systems which are open, complex and dynamic, making it necessary to reformulate the relationship between education-training and work. On the one hand, new systems demand *know-how* from workers, and specifically from operators, based on different, and in many cases greater skills than in the past. On the other hand this *know-how* is in a state of continuous modification because of constant change in the work process.

Labour competence responds to some of the concerns of the social partners. For managers it is an instrument which permits an efficient allocation of training resources, in a context where the acceleration and superposition of innovations make training needs and methods difficult to identify. For unions and workers, it allows a reconsideration of work organization and a new approach to negotiation.

The labour competence movement responds to the need to identify and construct new spheres of knowledge in a way that permits adaptation to new circumstances as they arise. It may seem paradoxical to create standards which are modified with time.

Enterprise managers began to apply the concept of competencies before the major transformations of the 1980s and 1990s. At first the concept was disseminated and advanced more in management than in operational areas, which at a global level has been reflected in an accelerated emergence of Assessment Centres (Weustein, 1995). The explanation is that the functions of managers consist of open and complex tasks, which evolve quickly and are not connected with a predetermined educational supply.

The application of labour competence at an operational level begins to spread from the moment when the work organization evolves towards

an expansion and enrichment of tasks. This is not a result of flexible quality management, which together with technological innovations, tends to transform the organization into an open system of continuous learning. With this, the quality of training for operators becomes more important. As firms demand a broad basic qualification rather than specialized vocational training, so the market requires more information about what will be learnt in the firm; that is, after basic education. The competence standard is an instrument which in theory can cover this regulatory function of the labour market by recognizing and recording what has been learnt in practice.

Even though the origins of labour competence date from the beginning of the century, its significance nowadays must be placed in context. The concept has diverse interpretations - some profound, others subtle - which give flexibility to the approach taken. This flexibility offers, on the one hand, a cohesive force sufficiently robust to withstand the real and potential deficiencies of the concept. However, it also represents a risk that the concept may be prematurely abandoned by the partners, before it becomes a national system.

The different approaches can be classified in three schools of thought: the behaviourist, the functionalist, and the constructivist. They all have their respective advantages and disadvantages. There are fundamental differences between the theoretical foundations of these schools, but business organizations tend to be eclectic, for two reasons. First, intervention on site demands a pragmatic combination, wherever possible, of the positive elements of each school (Adams, 1995/96). Secondly, functional analysis as developed by Luhmann essentially covers all these schools at a more abstract level of interpretation, because they all aim at finding the means to a superior performance at organizational and individual level. That is, they are different interpretations of a functional analysis, which are not necessarily incompatible.

Following this line of reasoning, the question of the best methodology becomes less important. What appears more important is *how the social partners and the state* accommodate the critical points which arise with respect to competencies, to which there is no unique or predetermined answer. These points cover the following topics.

1. *Transferability* of competence standards. As a rule, the more transferable the standard, the *less* the cost to society in terms of training and adapting the individual to changing situations, but the *higher* the cost to the firm to train the person for the specific needs of the organization.

2. *Demands* made by standards. The more demanding the standard, the more effective it can be for firms, but it will be less attainable for the labour force, and the training will be more expensive.

3. *Competition* amongst firms. Firms which impose the standard benefit from the fact that labour market indicators adapt themselves more to the firm's needs. However, this allows competitors to know the bases of their competitive advantage related to the human factor.

4. *Individualized teaching*. The more individualized the teaching, the less the time needed for learning, but the higher the cost.

5. *Participation of workers and unions* in the identification and administration of the standard. This participation of workers and unions in competencies represents a strategy for mobilizing and empowering resources at the firm's disposal. However, in Latin America worker participation is more the exception than the rule.

6. *Workers' autonomy*. It is supposed that the more autonomous the personnel, the higher the motivation to learn. However, autonomy in Latin American firms does not form part of the labour culture and, in the best of the cases, it is only achieved in a limited way.

7. *Labour relations*. Given that competence is directly linked to performance, the worker finds it easier to place it in the context of salary negotiations, which introduces to competencies a dimension not only of social but also of economic negotiation. This may generate an adverse reaction from managers, if they do not have a proactive vision of human resource development.

8. *Heterogeneity*. It would be difficult for the competence to satisfy all the needs of the organization at every moment. There is a contingency, product of the diversity of organizations, of the complexity of innovative and operational strategies, of unpredictable situations, which means that the desired performance only partially corresponds to the generic competence of the sector.

9. *Underemployment and/or informal sector*. It would seem that labour competence only refers to the formal labour market, which corresponds to an antiquated point of view of industrialized countries. For developing countries, a complementary vision of labour competence in the informal sector is required.

10. *Employment*. Very few models of competence training explicitly introduce the topic of employment. That is, competence is not automatically seen as one of the factors which permits access to employment.

11. The *institutional* issue. To what extent must the state intervene in the labour competence model and at what moment? The state can assume the role of promoter, motivator and coordinator, but there is a risk that the system of labour competence may turn into a bureaucratic governmental procedure. The opinions expressed by analysts depend on their own experience: in cases where there is minimum intervention from the state, for example in the United States, it is proposed that there

be more; and on the contrary, in cases where intervention is strong, for example in the United Kingdom, less intervention is requested. We can deduce from this that the optimum is between the two extremes.

12. *Cost.* Standardization and especially certification imply a cost that the firm is not always willing or able to pay. In contrast to an ISO 9000, where the cost of certification is directly linked to the prospect of better access to a market, the cost-benefit relationship of labour certification initially is only linked to personnel management within the firm.

13. *Social exclusion.* Although this has to do with several of the points previously discussed in connection with the labour market, it is also related to the construction of the competence standard. The identification of attributes which permit a superior performance would leave the less competent out of the analysis. On the other hand, the less competent would have their own way of perceiving dysfunctions and the means of personal improvement.

These as well as many other points, make the question "Is it good or bad to have competence norms?" irrelevant (Hager, 1995). What is important is whether the standards are well constructed, and to find the correct balance in each of them. Even if an equilibrium between all these factors is found with difficulty, or never, what counts is the effort made by the partners in this direction. The uncertainties and complexities in which the system of labour competencies is developed converts its dynamic into a process of institutional learning of the partners. From this point of view, general assertions and agreements on labour competence can exist, but what is most interesting at this instant is to know and understand the details.

The process of learning is fed by personal experience and general experience, as well as by studies. The ILO can act as facilitator and motivator here, through an exchange of information between countries working in this area. As in any learning process, there are differences in the direction and rhythm of the systems of competencies which are set up in different countries. Nevertheless, the critical elements do not differ substantially and these represent an opportunity for the exchange of experience. In terms of participation by social partners this is particularly important because the different models which have been analysed show little active participation. That is, individually, managers and workers participate in the different models, but their organizations as such do not participate. One of the main requirements for the system to achieve a predominant role in the internal and external labour markets of firms is the development of interest amongst employers' and workers' organizations in helping to forge labour competence models.

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500.11.99

Este libro
se terminó de imprimir en el
Departamento de Publicaciones de Cinterfor/OIT
en Montevideo, noviembre de 1999