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Technical education and professional training in Latin America and the Caribbean

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The context

Any analysis treating the current state of the availability of technical education and professional training¹ in Latin America and the Caribbean should be considered within the context of the development of a global society in which important technological progress has radically changed current visions and perspectives of job training in our countries during the time that this work was written.

Thus, when one considers the degree to which these efforts have attempted to adapt to this new scenario, it is evident that they vary significantly between countries. In effect, one can find countries that show an advanced state of implementation of modern focuses and perspectives, others carrying out partial actions in the form of pilot programs, and several that have not yet been able to discover policies and strategies that would allow them to make a beginning, bringing together different actors who influence the kind of shared decision-making required for development of the education sector (UNESCO, 2005)².

Moreover, within this scenario it is possible to note different degrees of development when one considers actions at the center or the periphery – with cutting-edge experiences in the former while in the latter there are negative situations that reflect the imbalances typical of regional societies³.

To a certain extent, this situation can be seen to be a result of the heterogeneity that characterizes the region. This heterogeneity is expressed in demographic terms by the fact that two of its countries have populations which surpass 100 million inhabitants, while in two others the populations are slightly over 100 thousand. In cultural terms it is expressed by diverse cultural traditions, with a block linked to Northern European societies and another with Iberian roots. In terms of political independence, this factor varies between 50 and 200 years, with some countries being federal states while others are unitary. In economic terms as well the differences are enormous, with per-capita GDP varying from US \$1,700 to US \$12,100 (UNDP, 2006)⁴.

Moreover, within the last decade this sector has witnessed an interesting debate on the role that it should play in the modern world which is, according

¹ In some countries of the region, the expression "professional training" applies to what in others is known as "training" or "labor training".

² This document is a compendium of the answers provided by 17 countries of the region in a policy survey after the II International Congress on Professional Educational. It represents the most up-to-date source of information on the subject treated by this study.

³ The disturbing differences in this area have been noted by Prawda in regard to Mexico in 1987, using 11 indicators. For one of these, the schooling levels of the population, the national average is 6.2 years of instruction. In the Federal District of that country it rises to 8.5 years and in Oaxaca drops to 4.2 and in Chiapas to 3.7. Apparently, the situation has not changed significantly during the last 20 years.

⁴ Values correspond to 2003.

to some analysts, going through a phase characterized by a renewed emphasis on social integration, recognition of the value of knowledge, the struggle against poverty, respect for the environment, and, in general, by new perspectives leading to attaining a more just society.

Heading this debate have been international agencies in the areas of education and labor, non-governmental organizations, specialists in different fields of interest, political actors, grass-roots leaders, representatives of the private sector, as well as young people and representatives of minority and excluded groups.

The over-all results point toward the need to incorporate new focuses into training modalities that, long seen as secondary, are now valued in terms of the support they can give to overcoming traditional limitations that have impeded social progress. These new perspectives have received support in the developed world and have been applied with success in emerging economies.

In Latin America and the Caribbean this phenomenon has generated significant agreement regarding the problems that affect its development and the need for new focuses to be adopted by education systems.

However, this increasingly shared diagnosis presents different responses, both in determining the causes and in designing policies and strategies for overcoming the problems. It is of note that both the analyses as well as proposed changes are linked to the level of development attained by national societies.

In effect, in most of the more-developed societies the application of corrective measures has been opportune and attained in general with a high degree of social consensus and in accordance with the state of the situation revealed by the diagnosis. However, in those societies that have lagged behind in development, answers have not yet been found or have been partial at best, given the discrepancies that have arisen in face of the solutions offered to overcome the limitations and deficits observed.

In many cases, the roots of this situation are found in different views, techniques, and policies expressed by different groups that wish to impose them in defense of corporatist interests. These discrepancies have led to immobilism that perpetuates the current situation and limits converting in the short run these training modalities into valid resources for development.

For societies that have not yet found a satisfactory solution, one may offer as an hypothesis that perceptions of the nature of the labor market in the modern world and its consequent impact on the education sector have not yet attained the degree of maturity required for education to adapt to the new training requirements existing in the labor market due to the effects generated by the process of globalization.

In this sense, there is currently a high degree of consensus (but not always of conduct to reinforce it) that labor is no longer a single life-long activity and that today, employment is transitory and dependent upon constant innovation; that turn-over exists both in jobs and in economic sectors; that labor performance increasingly demands higher levels of education, that are increasingly computer-based; that the most needed skills are interpersonal in nature; and that the service sector has become the largest employer, displacing agriculture and other economic areas (Brunner, 2000).

However, the dynamic that should accompany this recognition has not been fully inserted in many educational systems, and specifically in the training of technical personnel. Accepting this fact involves generating changes that allow these systems to both renew their perspectives as well as modify their structures and content. This, in turn, leads to the need, among others, to extend general training in order to provide the solid cultural and technological base required for supporting employment choice – a decision that cannot be made based on only eight years of schooling⁵. Institutionalizing ongoing education is today an increasingly an imperative need.

Thus, the absence of a timely and satisfactory response to these demands on the part of educational systems generates concern among communities that see education as the most important factor for escaping poverty and for taking advantage of development.

This situation has created a considerable social demand for “good education” and for the renovation of educational structures that has generated strong and never before seen tensions between the system and social aspirations of the population. This tension is a significant expression of rejection of the imobilism and conformity of the education sector on the part of those actors most directly affected⁶.

With this in mind, we present below some of the most problematic situations observed by the actors involved in technical education and professional training and that in their opinion represent the greatest challenges to be faced and the major focuses of tension that must be overcome in order for them to reach shared solutions.

⁵ This perspective, applied in some countries in the region, is mentioned by Castro, Carnoy, and Wolf (2000) in Jacinto, Claudia, *Juventud y Trabajo en América Latina: tensiones y desafíos para la educación media y la formación vocacional*”.

⁶ In Chile, for example, the prolonged national strike by secondary students provoked the reaction of the government which decided to create a Presidential Advisory Council with the participation of the students in order to analyze and propose solutions for the state of education in the country.

Challenges to be met

a. Placing technical education and professional training within the framework of continuing education

Continuing education is an important part of today's globalized society. Both the uncertainty caused by an unpredictable future as well as the fascinating promises of development have made this training modality the only option allowing countries to develop with a cultural capital in line with the demands of modernity.

This perspective has special meaning for the region, given that one of its still unsolved problems lies in the high levels of school drop-out in lower and higher secondary education. It is this juvenile cohort that lacks basic skills to develop socially and for which answers must be provided.

It is for this reason that in today's society it is recognized that the objective of technical education and job training cannot be restricted to offering "*immediate and short-term employment, but rather another kind that provides young people with a platform toward continued learning, including employment and/or job entry in post-secondary learning and training*" (Fretwell, 2004). Along the same lines Experton (2004) says that "*it is necessary to fix as an objective that all students possess general skills in order to be employable, or to be continually trained*". The author bases his statement on the fact that Latin America has a labor force that has on the average 5.8 years of schooling – leading to the fact that its productivity growth is the lowest in the world, after sub-Saharan Africa. The drama of the situation is reinforced when one notes that in two countries of the region, Mexico and Chile, the proportion of the population over 15 years of age that has not completed secondary schooling is 75% and 45%, respectively, of the total labor force (Ministry of Education, 2005)

b. Integration of efforts between participating agencies

The presence of multiple actors, both public and private, that participate in offering these programs in different Member States⁷, has led in many cases to the existence of diverse training models that fragment efforts, generation the irrational use of always scarce resources, inhibit needed synergy, and impede

⁷ In general, technical education in the region is the responsibility of the ministry of education (or equivalent entity) while professional training is the responsibility of the ministry of labor. In one country, however, technical education is the responsibility of five ministries and of a national office, in another, of three ministries and seven with autonomous status (Velasco, 2005a). Moreover, the presence of private entities has resulted in a proliferation of programs that are unregulated, and often of questionable quality.

the existence of a public policy and a system that harmonizes natural and desirable diversity⁸.

This situation has led UNESCO and the ILO (2003) to recommend the establishment of a plan or strategy that integrates national efforts in the fields of state-sponsored technical education under the responsibility of an agreed-upon national coordinating agency. Such a plan would be based on an exhaustive diagnosis of needs, coherent with the real possibilities of achieving goals within a stated time period and subject to assessments of its management.

The results obtained by this recommendation have been limited. In effect, the review of documents presented by 17 countries of the region⁹ regarding its application found that four countries (Argentina, Belize, Brazil, and Mexico) have duly executed them and produced recognized positive advances. Another four countries (Chile, Ecuador, El Salvador, and Venezuela) have concentrated on public agencies. Five countries (Colombia, Costa Rica, Paraguay, San Vincent and the Grenadines, and Santa Lucía) are in the analysis phase. Meanwhile the rest among the 17 countries analyzed (Barbados, Cayman Islands, Jamaica, and Panama) have no such plan (UNESCO, 2005).

Opposition to this focus is related, basically, to the role the regulating role of the State. This is seen, principally, by the private sector as dependent on political contingencies, limiting the free course of trends imposed by the market and open competition. Another strong factor of resistance is found in the struggle for power between the ministries responsible and even within them. The concept of "coordination" is confused with "dependence", generating severe conflicts of interests that hinder the required harmonization.

c. Decentralization or centralization of management

The decentralization of educational services, as well as the autonomy of schools, have been recommended by international agencies as a useful response for avoiding the kind of centralism that disregards the needs of the periphery and as a tool for fostering regional development. Experiences during the 1990s, applied to societies of diverse political orientations, have produced effects that are now being reviewed as a result of not having satisfied expectations.

Decentralization as such is not being questioned here, since it is seen as a valuable mechanism for the development of peripheral zones. What is being questioned is the meaning of a model that has been applied without stopping to

⁸ This circumstance appears to be a recurrent phenomenon in low-income countries. This is noted by Atchoarena for Francophone Africa (2003).

⁹ Argentina, Barbados, Belize, Brazil, Cayman Islands, Colombia, Costa Rica, Chile, Ecuador, El Salvador, Jamaica, Mexico, Panama, Paraguay, San Vincent and the Grenadines, Santa Lucia, and Venezuela.

consider the environmental conditions where such mechanisms have been installed and that have not adapted to circumstances.

The most severe critics point out that, by placing such mechanisms within local governments (municipalities) it has been noted that these authorities do not possess the technical capacity and resources to carry them out. This has led to widening the inequality gap and to perpetuating the self-reproductive character of the differences existing within societies.

In terms of the managerial autonomy of schools, expressed by their decision-making capacity, it has been noted that within these there is still not a critical mass required for these purposes. In this regard, the Declaration of Havana states that: "*Decentralization of some responsibilities has not been accompanied by an allocation of resources and technical administrative and pedagogical support that make it possible to create autonomous and effective schools* (UNESCO, 2002).

In summary, one can say that the background contains a political struggle around the role of the State in education; a situation possible to be resolved if one is able to establish a mechanism that reconciles both perspectives.

d. Adequately financing programs

The lack of resources required in order to offer the kind of quality technical education required by the competitive international economic scenario is a permanent source of tension the solution for which is impeded, on the one hand, by the need to pay the educational debt resulting from past lack of concern for the sector and, on the other, by the fact that quality technical education is expensive and academically rigorous.

This second factor highlights a paradox: modern companies require highly-prepared technical staff that can carry out complex tasks that assume the mastery of basic behavioral and technical skills. This necessarily requires students with solid bases of knowledge, qualified and up-to-date teachers, and schools with workshops and other installations able to offer adequate preparation for employment.

However, the general impression is that this kind of training is still seen as the "poor cousin" of education systems and in many cases is a marginal expression of such systems. This situation becomes obvious when we observe the reduced proportions of budgets allocated with the presence of unqualified teachers, and the inadequate installations of such institutions. To this is added the presence of students with inadequate previous preparation that enter technical education due to not being able to enter other modalities due to their need to quickly enter the labor market, or in the case of higher education, due to not being able to enter a university.

There are undoubtedly exceptions, and various countries of the region have model programs in their implementation and teaching. However, these schools are generally private and for-profit, with high tuition costs, located in large urban centers, and that target privileged classes. The periphery and those socially excluded still do not enjoy these benefits, while assistance networks can only begin to offer them subsidies for access.

The tension in this case exists between the impossibility for the State to simultaneously satisfy social demands and the need to pay both the education debt as well as the need to offer quality education within a context of scarce resources and alternatives for their use. This serious situation involves a political solution that considers the context and circumstances in each case.

e. Establishing useful school-private sectors relations

The chronic lack of connection between training institutions and the surrounding private sector - which is a generalized situation in technical education - has resulted in training that is disconnected with the needs of the labor market and the absence of training focuses compatible with combined work and study.

The current provision of career paths and specialties centered principally on supply, a product of a static and uncomprehending view of the needs of the economy, generate the isolation of these needs from the realities of schools and the consequent search for other training alternatives that satisfy the demands of a dynamic sector that must participate in a competitive and demanding environment.

In this regard, it appears that the education system has not yet internalized the fact that school-private sector integration should be seen as an imperative in the preparation of technical personnel.

Various factors argue in favor of the advantages of this approach: educational offerings in this sector should be focused on the needs of the market. Not doing so results in their losing their essential purpose: employability. Schools by nature do not provide the singular characteristics of rigor and demands present in the workplace. On the other hand, cutting-edge technology exists within companies that have to compete in the market. School workshops are merely a simulation of real environments, never having, even in developed countries, latest generation technological equipment and resources.

It is for this reason that a proper school-private sector integration should be understood as a two-way street occupied on the one hand by students and teachers in order to view reality, and on the other, by business people and technicians in order to learn about and support the preparation of those who will be incorporated into their workshops, laboratories, and places of work.

These perspectives, shared by advanced societies¹⁰, are seen from contrasting points of view by business people and teachers in scenarios with limited development. The former are loath to absorb the costs involved in these approaches, fear the “destructive forces of competition”¹¹ and appear to see as dysfunctional to their interests the contents of training aimed at providing general culture and values. For their part, teachers resent the emphasis on specific training useful only to a company by which it is provided as well as the company requirements to focus on the preparation of qualified personnel, with disregard for other needs of young people and adults.

The possibility of the presence of the public sector, with the State as a promoting and not executing element, that satisfies national interests in providing broad-based labor training, taking into account the interests of small and medium companies and fostering useful preparation for various productive sectors, may be a useful response to a perspective that cannot be disregarded.

f. Improving teacher training

Within institutions of higher learning in the region it is unusual to find programs aimed at training teachers of technical skills required to carry out this task for this modality of education. For their part, training programs are scarce and usually focused on the specialties served. Usually, their training is limited to studies linked to a career or specialty offered by the school. Moreover, it is common that in some of them, this personnel is largely made up of former graduates of the institution who have not found employment in their fields of training, indicating again the lack of synchronization between training and the labor market.

For these reasons, in technical training the activity of teaching exhibits neither adequate preparation in academic disciplines nor the up-to-date knowledge required in the specialties of those who wish to occupy them.

This situation has resulted in a low-quality educational service characterized by the general absence of contemporary curricular developments. The latter have not been institutionalized, with only incipient efforts existing in the implementation of innovative approaches such as the development of labor profiles, the existence of training in, assessment, and certification of competencies, the use of modular curricula, as well as the application of training itineraries – resources that have proven to be useful elements that foster quality preparation of technical personnel.

On the other hand, the need to employ renewed training modalities in order to meet the needs of an increasingly growing population of people who need to be quickly integrated into the labor market has highlighted the

¹⁰ The experience of the French University Technological Institutes, the Canadian CEGEPs, as well as in the German school-workshops are proof of this reality.

¹¹ Expression coined by M. A. Gallart (2000) to refer to the practice of some companies which benefit by contracting personnel trained by other companies.

emergence of didactic focuses that overcome some of the limitations of face-to-face instruction while fostering increased supply.

In this sense, the development of communication technologies has made it possible to incorporate or make possible the use of methodologies such as distributed learning and other strategies: the use of videos, computer-assisted teaching, the use of e-mail, and linking schools to computer networks. These technological advances, necessary in order to reach those on the periphery where the highest levels of underdevelopment are found, will necessarily require the kind of qualified teaching personnel not available today and macro efforts for the proper preparation of technical education and professional training teachers.

Moreover, the weaknesses of teachers has led to the almost total absence of an assessment culture, whether institutional or in technical education programs. Public responsibility for results obtained in this educational service does not translate into a commitment on the part of technical training entities to neither students nor society.

The absence of information regarding the subsequent employment experiences of graduates, including their salary levels and opinions of the quality of their preparation on the part of employers, and on the true duration of study, are all commonplace in the region and impede the possibility of feedback reaching this educational modality and helping it to overcome its weaknesses.

Among the factors that contribute to this situation are the low social status of technical training in traditional societies that emphasize classical training, and the preference for university training as a symbol of social prestige. Moreover, low teacher pay contributes to its lack of attractiveness by qualified persons, while indicating the lack of importance that authorities assign to the sector. The gap between what is said and what is done in the preparation of qualified personnel to achieve desirable development is an unequivocal trait of societies that are still educationally limited.

g. Favoring the insertion of minorities

Both technical education and professional training are especially propitious areas for entry into the labor market of different minorities present in the region who demand their rights to opportunities to develop as persons, be incorporated into dignified occupations, and enjoy a good quality of life.

Moreover, both training modalities offer interesting platforms for implementing social policies aimed at overcoming the inequalities that afflict young people, women, ethnic minorities and rural dwellers in most of the region.

Available information indicates that these sectors exhibit the highest rates of school drop-out and grade repetition, attend low-quality schools, while the content that they receive is not pertinent to their needs of prompt insertion into the labor market. Consequently, these are factors that contribute to strengthening reproduction of their social condition (CINTERFOR, ILO, 1998).

In regard to young people, this translates into worrisome statistics: in the region, the juvenile population in 2003 grew by 13.1% compared to the previous decade, but there was only a 2.8% increase in the number of young people who work – with female and adolescent unemployment being larger than that of males and young adults, respectively. Moreover, unemployment is greater among ethnic minorities (ILO, 2004). The repercussions of this situation are feelings of exclusion and uselessness.

It is within this scenario that one appreciates the need for a wide-ranging reform of secondary education in order to make it more inclusive, with a spirit of solidarity, equitable, and integrating relevant knowledge in order to provide true equality of opportunity (Tokman, 1998; Macedo, and Katzkowicz 2002), impossible to achieve given current operational structures and modalities.

Thus, the needed substantial increment of enrollment in secondary level technical education in the region that, with the exception of two countries only slightly surpasses 20% of total secondary enrollment (Jacinto, 2002) can offer the possibility of meeting the training needs of these segments of the population that have been traditionally been excluded from the educational system.

Another benefit of this increase lies in correcting the current disparity between the occupational pyramid and the labor structure observed in some countries, motivated by the aforementioned preference for university training. This fact has led to the fact that we see in some cases a proportion of 4:1 between the training of engineers and technicians, generating a severe asymmetry that is not in harmony with the labor pyramid and that will lead in the short run to underemployment of more-qualified professionals¹², as well as to an additional waste of resources.

In this matter, the great challenge for ministries and political authorities of the region lies in satisfying the Declaration of the Millennium in which countries firmly dedicated themselves to "*developing and applying strategies that provide to young people throughout the world the real possibility of finding dignified and productive employment*" (ILO, 2004).

¹² Sainz and de la Fuente, cited by Brunner, note that occupations may be grouped into three segments, according to the educational level of the work force: higher, intermediate, and lower – which represent 3%, 20%, and 74% of the work force.

For secondary schools, and principally for the technical training modality, this commitment involves developing efforts necessary for these institutions to be the natural receptors of minorities, increasing their training offerings, including all forms of employment training and all teaching methodologies foreseen by technological development while adjusting it to the demand to make it attractive and to satisfy its social role.

In this effort, certainly long and not free of difficulties, the support of the State as the driving force and executor is crucial, at least in the beginning, given the fact that the immediate profitability of such an investment is very unlikely to attract the participation of the private sector.

h. Satisfying the need for timely access to information

No lasting decision can be adopted without having access to a large amount of precise and up-to-date information. In education, an area in which the impact of decisions can only be perceived in the long term, this is even more indispensable, given the cost and transcendence of mistakes.

However, it is difficult to have access to national, standardized, and easily accessible information. The absence of background information, mentioned in section (i) above, is a clear example of this reality. The plurality of participating institutions in offering technical and professional training programs, as well as the absence of legislation that demands such reporting convert these limitations, into a felt necessity that needs to be overcome in order to facilitate an accurate diagnosis of the situation and not to adopt measures that lack a solid empirical base.

In summary

The final conclusion of this brief analysis of the situation faced by technical education and professional training in Latin America and the Caribbean may be summarized by the following points:

1. One of the greatest existing tensions lies in the lack of synchronization between the efforts of educational systems and the needs of the labor market, given that the former has not fully assumed the role that it should play as the provider of qualified labor needed by the economy in terms of goods and services.
2. Overcoming social inequalities in the education sector is still far from satisfactory. Currently, being young, a member of an ethnic minority, and residing in a rural area or marginal urban area constitute stigmas that remove the possibility of access to a dignified life.
3. The growing gap between the supply of educational services and the satisfaction with such services expressed by society has increased awareness of the importance of pertinent and quality education in order to achieve better living conditions.
4. The operational difficulties of these training modalities are associated with a chronic lack of resources to solve meet them. There is a

discrepancy between discourse and action, as well as the persistency of a focus on immediate problems, together with an seemingly incomprehensible lack of understanding of the importance of a vision of the future that demands policies and strategies able to respond to the situation.

5. Another major tension lies in educational offerings, specifically in whether they should be competency-based, the acquisition of which is required by the labor market, or according to the skills that people need in order to live a full life and to be fully integrated into the society in which they live. Ethical dimensions and citizen training should be reassessed in the current context. One should not minimize the need to provide young people with a diversity of training opportunities of expression, in sports, culture, etc. These are useful for work, for life, and for citizenship training.

The solution of these problems provides us the opportunity to think about the need to face this highly serious and chronic situation through regional and inter-sector collective efforts that involves the participation of interested Member States, multi-lateral organizations dedicated to the study of these subjects, with the support of financial entities such as the World Bank and the IDB in a long-range project that involves the solidarity of countries that are more highly-developed in this training sector.

A good alternative in countries is the design of strategies that make it possible to create training circuits and to create inclusive and flexible systems. The construction of these circuits would involve the participation of various actors, both in the world of employment and in education. But it is evident that States should play a key role in creating of regulations, in fostering mechanisms and financing for the establishment of education systems, training, and labor placement that signify greater opportunities for young people within the framework of more equitable economic development (Jacinto, 2002).

Systems must be established that bring together formal education, professional training, and labor market insertion mechanisms, reinforcing the concept of life-long education. The need to move toward greater coordination is not only a question of efficacy and efficiency (Jacinto, 2002). Equity is also related to the existence of a permanent education system that responds to social, cultural, economic, and technological changes and enables the access to different lifelong training opportunities.

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