

Issues and Trends in Contemporary Education

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The future it has many names.
For the weak is the unattainable,
for the fearful of the unknown,
for the brave the opportunity.

—anonymous

Innovation management, as well as organizations in general, public, and private, deserves a continuous analysis and follow-up of the variables of the external context that impact them. In this sense, it should be noted that educational agents are the ones who do the innovation and hence their management and direction play a key role. Education professionals, more than ever, need to know how to come to understand and comprehend the complexity of what external variables mean and their impact on educational work. Next, a model and method for its follow-up is presented. It is an invitation to know and take possession as agents of change in the practice of creativity and innovation, without neglecting at any time, the impact of the external context of the school, as it occurs in the Dual Mode (school-company relationship). The school as a quality school organization and educational innovation represent two areas called to be properly related, carefully analyzed, strategically planned, and encouraged for their joint development. The relationship between the school as a quality school organization and educational innovation has to be seen and justified both at the level of theoretical argumentation and in the functioning and institutional life of schools as educational spaces both in it and in the company when applying Dual mode. It has to be projected, in time, in the articulation of the educational policy of a country, and in the school practices that occur in the classrooms. I believe that in our country this double task is yet to be accomplished. So far we have not managed to develop a solid tradition of pedagogical thought that has adequately explored the mutual implications between school quality and innovation as an educational process.

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Introduction

It is important to begin by highlighting that the right to education, as a basic human right, was established in the *Universal Declaration of Human Rights* (1948)¹, and was reaffirmed in the Convention on the Rights of the Child (1989)², which has been ratified almost universally. However, there are still millions of people in the world for whom this right has not been made effective. The Right to education, according to the Convention on

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¹ Article 26.1.

² Articles 28 and 29 refer to the right to education.

the Rights of the Child, must ensure access to education for all boys and girls, without any type of discrimination and inspired by equal opportunities, that Primary Education is compulsory, free, and quality, and ensure that school discipline is consistent with the rights and dignity of the child.

The World Conference on Education for All (Jomtien, 1990) had the objective of confronting this situation. For the first time, world leaders faced the challenge of fighting against exclusion and inequalities in education. One of the recommendations of this Conference was to universalize primary education and promote equity, taking systematic measures to reduce inequalities and suppress discrimination regarding the learning possibilities of disadvantaged groups.

10 years later, the evaluation of Education for All revealed that, despite the efforts made, the objectives defined in Jomtien were still far from being achieved. For this reason, at the World Forum on Education for All (Dakar, 2000), the countries reaffirmed their commitment that every child, youth or adult has the human right to receive the benefit of an education that satisfies their basic learning needs in the best possible way, and a more complete sense of the term, that is, an education that promotes “learning to know, to do, to live together and to be”.

On this occasion, it was concluded that, despite the powerful equalization of opportunities agenda of the Education for All movement, high rates of exclusion and educational disparities still persisted. For this reason, it was declared that the needs of the poor and disadvantaged must be taken into account, including working children, living in remote rural areas and nomads, children, youth, and adults affected by conflict, hunger, and ill health; and those with special learning needs.

The Education for All action frameworks of Jomtien (1990) and Dakar (2000) consider that the quality of education is essential to achieve these goals. Within the framework of the Dakar Action, the 6th objective refers specifically to the quality of education and is also present transversally in the objectives related to the universalization of primary education and the increase in the expansion of early childhood education.

Achieving a higher quality education for all is not only an international agreement, but it is one of the main goals and aspirations of the educational reforms of the countries, however, the objective of universal access to education is usually faced first and then think about the quality of it, since they are two closely related aspects. Indeed, a quality education makes a difference in the learning results of students and in the levels of attendance and completion of studies, so that finally the quality of education influences its expansion.

What Is a Quality Education?

The question that many researchers, decision-makers, teachers, and families ask is the following: What is a quality education? Is it a universal concept or is it mediated by culture? Can we talk about quality education if it is not for everyone? Answering these questions is not easy since there are different approaches and interpretations regarding the quality of education depending on factors of an innovative, ideological, and economic nature, the meanings assigned to it at a given moment, the different conceptions on human development and learning, the demands and changes in society, to name a few aspects. The quality and innovation of education, therefore, is not a neutral or unequivocal concept.

The aforementioned dimensions vary over time and from one context to another, so it can be said that we are dealing with a living and changing concept. As Inés Aguerrondo (1993) points out, quality and innovation are socially determined concepts, that is, they are read according to historical and cultural patterns that have to do with a specific reality, with a specific social formation, in a specific country, and at a specific time.

Quite often, as in the industry, the concept of quality is reduced to efficiency and effectiveness, which is why indicators related to coverage, repetition, and academic performance are used. There is increasing agreement that the results achieved by students in certain learning areas, especially in language and mathematics, are not sufficient to define the quality of education, although this is what is usually measured in most of the countries.

Determining whether an education is of quality implies, ultimately, making a value judgment based on certain criteria and values. Despite the fact that there are different approaches and approaches to the concept of quality, UNESCO, in the latest Education for All monitoring report, establishes three elements to define quality education³: respect for people's rights; equity in access, processes, and results; and the relevance of education, to which the relevance component should be added. These dimensions are closely related to each other and it is the set of all of them that defines a quality education.

Development

Frequently, technical-professional high schools are faced with the task of designing and implementing educational projects. These projects aim, in general, to improve the quality of the educational offer, making it relevant to the requirements of the business world, in order to achieve adequate job placement for young people.

Dual training appears as a different concept of innovation and quality by introducing a second place of learning: *the company*, which qualitatively distinguishes it from traditional technical training in terms of facilitating the overcoming of the gap between education and work life, through a cooperative action based on a close and continuous relationship between the high school and the company.

Dual vocational training in Chile has been implemented in the line of formal education, at the level of professional technical high schools, with the advice of the FOPROD Project (Dual Vocational Training), an organization established through an agreement between the Chilean and German governments (MINEDUC-GTZ).

To date, it has achieved curricular innovations in Technical-Professional Education, which arise in response to the demands for qualified human resources, complementing school teaching with learning in the company.

To start this action, it is essential to have two prerequisites:

- (1) careers that have an occupational field
- (2) a sufficient number of companies available, suitable according to teaching plans to provide the corresponding instruction.

For this reason, the dual modality is not defined as the only modernization alternative, but rather as an adequate response for high schools that meet the aforementioned prerequisites and aspire for quality curricular innovation.

The model developed by FOPROD (MINEDUC) provides that, upon completion of the training process, the young person not only receives the classic accreditations (secondary education license and intermediate level technical degree), but also a professional aptitude certification (CAP), granted by the apprenticeship company or trade association of the corresponding productive sector. In order to facilitate insertion into work and allow labor mobility, this certification accredits the skills required and defined by the companies themselves, ensuring the quality of learning.

³ Education for All Global Monitoring Report. *The quality imperative*. UNESCO/Paris 2005.

Learning in the company is in itself the hallmark of dual training, transferring a large part of the practical instruction (teaching) from the school learning workshops to the production center. “Learning by doing” in the production process is the philosophy that guides it. The learning of abilities, skills, and work behaviors in the company is carried out during the 3rd and 4th years of the technical-professional high school.

This is part of systematic education. In this way, it differs from professional practice, in that the latter is conceived as the application of what has been learned and not as the systematic acquisition of knowledge, skills, and abilities.

In the Field of Dual Vocational Training

Currently the Chilean economy presents a positive balance. The economy shows very important growth rates, inflation is one of the lowest in Latin America, the external debt has stopped growing.

The growth strategy with an open economy considers high competitiveness requirements, both in the international market and in the national market. This reality has caused “bottlenecks” in certain productive areas due to the lack of qualified workers that respond to the necessary technology to maintain that competitiveness.

There is consensus that an economic-productive transformation with equity requires investment in human resources, but without forgetting that we work with human beings. These investments must:

- (1) Provide the productive sector with qualified labor according to their needs.
- (2) To maintain and improve their levels of competitiveness, producers of goods and services require workers with personal and specific skills, differentiated by specialties and levels.
- (3) Ensure young people their social and labor insertion, as well as due flexibility and mobility at work.

Social integration depends, to a large extent, on the location and job prospects. It is difficult to find a job, especially for the first time. Work experience and specific skills are the main requirements. Technological and work organization changes often occur, this requires lasting skills that facilitate adaptation to changes.

In Chile, the traditional technical-professional secondary education shows weaknesses in terms of the link with the world of work. The insertion and labor projection of its graduates is hampered by shortcomings in their preparation.

Within the set of issues that concern technical-professional education, some problems should be highlighted:

- (1) In general, there is little link between technical-professional high schools and the corresponding economic sectors.
- (2) The curricular conception is not related to the development of professional skills.
- (3) The lack of unique professional profiles prevents a transparent certification of competencies, applicable to the entire country.
- (4) Currently, to a greater or lesser degree, the available resources do not allow timely equipping and financing of technical-professional establishments.

(5) Due to the fact that for almost two decades there have been no teacher training careers in education for work in the country, it is the case that in technical-professional secondary education a considerable percentage of teaching personnel without a teaching title works; It is the specialty teachers who need to be updated.

(6) Currently, various institutions offer offers for improvement and teacher regularization. However, these initiatives lack consistency due to the absence of a national teacher training policy for technical education.

In light of the problems indicated, it is possible to think about the design of a global strategy that considers a relationship “demand for labor resources—supply of professional training”, in which a school-company union is produced, that is, innovating in the curriculum.

In this modality, the school-company union requires a learning curriculum both in one place and in the other. In this way, the company obtains duly qualified human resources both in technical domains and in labor conduct. Students achieve abilities, skills, and habits that allow them to operate with existing technology, delve into the fundamentals of these technologies, overcome the historical gap between technical development and implementation of material and human resources of the technical school.

A professional training of this type goes beyond the simple cooperation between an educational establishment and a certain number of companies. The educational project of these establishments must be linked to the perspectives of innovation and development not only at the local level, but also of the region and the country. This means that the quality and relevance of dual training depend, among other things, on the development of policies and instances of coordination and support, which leads to planning and developing: studies on the regional economic projection and the respective labor requirements, the preparation and updating of Graduation profiles according to the detected needs, the preparation, and updating of innovative curricular proposals for the respective profiles of graduation, the elaboration of didactic material, the training and the methodological and technological improvement of teachers in accordance with the demands imposed by the study and learning plans for the achievement of educational quality.

In accordance with the results obtained to date, dual vocational training is presented as a methodological-operative model that in itself is not the total solution to the problems of education for work in general and medium technical-professional education in particular. It requires work in all the areas mentioned. However, with its potential (real link between educational offer and productive sector, optimization of the use of available resources, socialization of apprentices with the reality of the world of work and others) it has been shown as one of the interesting innovative alternatives for the improvement of education.

This training methodology gives us several advantages:

- (1) First, the dual system allows for extraordinarily wide coverage.
- (2) At the same time, it greatly alleviates the *burden* on infrastructure budgets, since it reduces the investment needs of the school system in technology, as well as the operating cost, using the inputs and technology installed in the companies.
- (3) It also ensures a significant degree of flexibility and mobility of students, prepared in this way, both to adapt to the changing demands of their specialty in the future, and to switch to other job offers, that is, the change of mentality between employment and employability.
- (4) Dual vocational training thus constitutes a strategic factor for the competitiveness of the economic system, with an innovative methodology and relevant to the reality of the country.

Training in the dual system means for apprentices:

- (1) Pretty sure chances of an initial entry into the job market.
- (2) Integration into a job as a skilled worker (basic competences).
- (3) They have no problems adapting to the technological and/or social conditions of the world of work due to the practical experience acquired during their two-year apprenticeship.
- (4) The great flexibility and mobility that characterizes the workers, trained in the dual system, not only allows them to adapt to changes in their specialty with advantage, it also makes it easier for them to search for new horizons.
- (5) Important for the flexibility and mobility of these workers are also their fundamental technological knowledge and their mental abilities acquired in the dual process that allow their subsequent training for purposes of updating, specialization, improvement, and recycling.

Dual training in its application and development, according to the characteristics and particularities of the educational community and its environment where the experience will take place, presents potentialities and advantages for the actors involved in it, in this case the student-apprentice, the company, and high school, such as:

for students

- (1) Access to productive and working life.
- (2) Early integration and technical specialty experience.
- (3) Motivating incentives.
- (4) Better chances of getting a job.
- (5) Greater social and labor mobility.

for the lyceum

- (1) Permanent contact with the company.
- (2) Educational offer according to labor demand.
- (3) Optimum use of resources.

related to both institutions and people should be considered, each of them playing different roles and functions, but innovation and quality are essential in the achievement of competencies.

Of these, two are the vital institutions in this modality of professional training: the high school and the company. Their interrelationships are decisive, because to the extent that the company is “prepared” with its constituent elements and corresponding functions, it is making it possible to start learning in the company and the consequent alternation in school. Both one and the other require compliance with aspects related to information, material, human, and financial resources.

Students/Apprentices and the guiding teacher also play an important role. Their willingness to participate is essential for the success of the project. Each of the components that participate in the implementation of the dual modality is defined and explained below.

(a) Students/Apprentices

The students/apprentices are students of the 3rd and 4th year of the technical-professional education in the dual modality, who maintain their status as students. However, for the purposes of learning in the company, they are considered as apprentices.

(b) Master Guides

He is in charge of enforcing the learning plan in the company, becoming the student’s tutor in it.

The expression curriculum, used in the dual modality, means something like “a set of principles, contents, processes, methodologies, through which we want to achieve the integral formation of the student”.

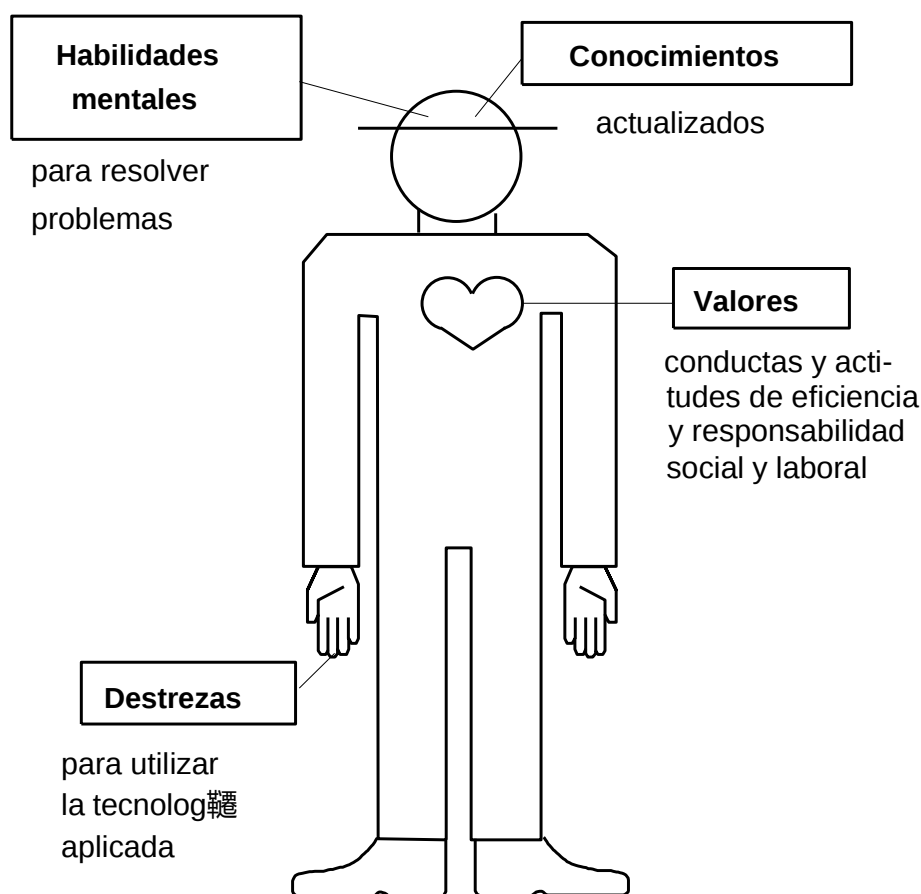


Figure 1. Dual training is intended to achieve a comprehensive student training.

Table 1
Other Particularities of the Vocational Training in the EMTP

Activity	Company	Lyceum
Resume	Learning plan	Study plan
Learning technical	Skills and abilities specific	Technological knowledge, and basic skills
Learning Social	Socialization in the company	Personal, cultural, and civic formation
Investment in the learning	Productive sector	State
Responsible of the information	Master-guide	Teacher

The Viability of Dual Modality

Innovation means change. For committed stakeholders, change means getting out of their routine, which often provokes resistance. In the case of the dual modality, the changes must be made both in the high school and in the participating companies.

Without underestimating the problems and difficulties involved in the application of the dual modality and less the efforts required from all the actors involved, the quantitative development during the experimental phase demonstrates the feasibility of the dual modality in technical-professional high school.

The proper functioning of the dual modality implies having an innovative work planned, programmed, and adapted to the dynamics of a cooperative effort; that is, it is not feasible to maintain a routine whose dynamics are regulated exclusively by the calendar and school events.

Summary

In the current curriculum, Differentiated Technical Professional Training, in the last two years of high school, is closely related to a productive or service sector. That is, with a specific labor field. Aware of this, the professor sees that a “Dual Modality Program” is a way that allows students to “real contact with the company, verify learning achieved in high school, motivate students to improve their personal training and professional and complement the training he receives in high school” (source).

Undoubtedly, placing students in a real context surpasses “simulation”, no matter how good it is. It is in the workplace where students will face emerging and contingent “real problems”. There they must put to the test the learning achieved in the lyceum. This type of situated learning causes transformations that are noticed by teachers and that is expressed in “the way in which the student returns to class”. Something happens when joining the world of work that students take more responsibility for themselves and as a consequence “they take school work with greater commitment and there is greater awareness of the importance of their dedication to studies” (source), which helps to achieve quality.

Suddenly, those school demands that sound foreign to their reality become important: “they understand and efficiently apply different resolution processes” and “they experience the importance of good vocabulary and expression of ideas in different contexts” (source).

The foregoing highlights the importance of the interrelationship between general training and differentiated training. Students must not only apply the knowledge acquired in the specialty, but also become aware that in the workplace they must use an adequate and precise vocabulary and that they must be able to express their ideas clearly in the different contexts to which they are put, which are faced. Skills expressly are indicated in the Transversal Objectives on Thought Development and particularly in the Language and Communication sector. This is only a small sample, since, most likely, associated with technical knowledge they must constantly resort to many others from learning mathematics, for example.

This work provides new clues regarding the importance of the relationship between the lyceum and the workplace, on which there is a rich accumulated practice in dual training, where the student expands their learning environment both in the company and in the establishment. Certainly, this requires organization and supervision and, also, commitment: “the Director’s pedagogical leadership is also key when embarking on experiences of this type”, achieving the innovative society where “the company is the scene of learning”.

Innovation management, as well as organizations in general, public, and private, deserves a continuous analysis and follow-up of the variables of the external context that impact them. In this sense, it should be noted that educational agents are the ones who do the innovation and hence their management and direction play a key role. Education professionals, more than ever, need to know how to come to understand and comprehend the complexity of what external variables mean and their impact on educational work.

The school as a quality school organization and educational innovation represents two areas called to be properly related, carefully analyzed, strategically planned, and encouraged for their joint development. That is why these must be contemplated and justified both in terms of theoretical argumentation and in the functioning and institutional life of schools as educational spaces; be projected, in time, in the articulation of the educational policy of a country, and in the school practices that occur in the classrooms.

In our country this double task is yet to be accomplished. A strong tradition of pedagogical thought that has

adequately explored the mutual implications between school quality and innovation as an educational process has not yet developed.

Although, the dual modality training schools promote a change in attitude, in such a way as to break the persistent tendency to undervalue the less academic inclinations of young people and to reward only those who have been successful in the instructions given in the classroom. That is why it should be noted that the activities of this modality are not only focused on the school, but also outside of it. Being the greatest motivation that this generates, applying in companies the knowledge acquired in the lyceum, which can be seen as another innovative benefit of this type of training, the same happens with the maturity and appropriate behavior that the apprentice student acquires by being in permanent contact with a master-guide.

Deepening cooperation between schools and companies to bring the world of education closer to that of production constitutes an increasingly important challenge in today's world, where technological change requires workers to constantly renew their knowledge. Furthermore, it has been shown that the ability to acquire new skills is directly related to the student's experience. When a young person finds in his studies an answer to problems that have previously been posed to him at work, he internalizes the solutions much more efficiently.

The central objective of dual education is to provide the student with alternate theoretical and practical training. As learning is carried out at school and in the company in a complementary way, students have the possibility of acquiring knowledge and specific skills of their specialty, learning to use new technologies "in the field", really knowing how a company works, knowing to relate to their colleagues and superiors, developing important values such as responsibility and industriousness, and, at the same time, completing their studies.

Conclusions

To conclude this work and analysis of education, I quote Paulo Freire, who clearly states what should be the qualities and virtues of an educator who seeks to innovate in quality in his educational management:

- The first is that the educator not only loves the subject of education, the boy, the girl, the young man, the young woman, the adult, but also loves *the process of loving itself*. It means that I love the very act of loving someone. This act of loving, for me, cannot do without passion. I believe that without an immense passion no love is possible. Deep down, for me, love is in the relationship between love and passion for something, for someone. The progressive educator must fight to create, to invent, because no one is born with these abilities. The educator is also an artist, an architect of beauty, he must have the passion to love the child, the people who suffer and somehow positively influence their environment.

- A second quality that I value in a progressive educator is *his competition*. It is vigilance over itself, over itself. It is the permanent investigation: What did I do today?, or What should I have done better today than yesterday? The competence in terms of the content that the educator teaches, what abilities and skills he must have and the update on new teaching methodologies.

- Another virtue is the *coherence* between what the educator dreams of, which is a society that is freeing itself, not free, but a society that is permanently freeing itself... the coherence between the educator's dream and what he does to materialize that dream. He must be demanding critic and creator.

- A virtue that I find indispensable for the progressive educator is *belief in the town*. Trust him without being naive, trust knowing him, precisely because he is the people and does not have complete wisdom, nor complete morality, nor complete goodness. But believe in it and ensure the right to a quality education with equal educational rights.

- I believe that another quality of the popular educator is *hope*, in society, in people and to think that it is possible to innovate in education.

- Understanding history as a possibility places me in search of another quality of the progressive educator, which is his *quality of being utopian*, precisely because of the understanding of history as a possibility of permanent change.

To these qualities mentioned above, I add others that will help to understand how innovation and educational quality are inserted in the philosophy of the dual modality and also other characteristics that an innovative teacher must have to achieve quality education, among others are:

- They must have pedagogical leadership, and influence their peers and students, motivating them in the search for new learning strategies.

- Another no less important aspect is that this modality forces the teacher and student to develop their creativity, both in the company and in their pedagogical work.

- Finally, every educational process must have a teacher who is permanently re-enchanted with what he does, with his work as a trainer, and who continually loves what he does.

I believe that these qualities are a priori, I have not invented them, but I have seen them taking shape in the struggles and in the practice of today's progressive educators.

With this thought, so philosophical, I think that the teacher we want to see in the classroom is represented, that utopian teacher, with hope, who believes in the students, who is consistent with his actions, who has the skills and virtues to be a teacher, and above all he loves the process of teaching. This teacher is re-enchanted with his profession and can help change the future and progress in new pedagogical practices, which will improve education.

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