

In relation to the improvement of the education in Mexico, innovative educational systems will be developed with emphasis in the use of telecommunication, computer networks and multimedia, as well as new teaching-learning models; the process to develop abilities, attitudes and values; self-learning systems; and distance education.

Technology Institute of Monterrey, 1995

1. Technology Institute of Monterrey toward 2005

The Tec of Monterrey is a university which offers undergraduate, graduate and continuous education in classroom or virtual format. It offers its services to almost all the cities in Mexico and to different countries in Latin America.

Tec's goal is to contribute, throughout its graduate students, to the development of the country and the society it works for and to whom it orients its efforts. In order to achieve this goal and keep the quality of its educational offer, the institution reviews its mission every ten years. In 1995, a larger consultation was carried out to define the direction of the institution in the next ten years. Members of the Council of Teaching and Investigation, members of civil associations who provide financial support to Tec, employees, students and professors participated in this process.

In addition to the Tec's consultation done to the society, relevant factors have influenced the establishment of the new mission such as the analysis to the social context and the analysis to the current working situation, as well as the world-wide and national tendencies. These results were used as a reference to define the educational process included in the mission. At the same time, these results justify why the education at Tec is based on some aspects and stops emphasizing some traditional teaching methods.

This way, Tec's mission was based on the principles and values used in the international and national educational thoughts, as well as in the principles and values used in the institution. In order to understand its scope, it is necessary to analyze the context in which it occurs and know the educational demands that derive from it.

New work and social context

The features of the present society are determined by cultural and human changes caused by the scientific and technological progress of the second half of the 20th century. These changes have influenced considerably the transformation of people's way of life, the world economy and the nature of the work. The educational community has also been influenced by these changes, for this reason, institutions are generating solutions to the needs that derive from this new context.

How have these changes influenced

- ? The quality development of informational technology and the communication with the distribution of image and word, the multimedia materials and the important development of the telematic network have permitted humanity to enter the era of information and universal communication. They have eliminated distances and promoted international relationships, as well as the understanding of the global world. They have also accelerated the opening of the economical and financial borders and have achieved to change the humanity from a base community to a worldwide society. Education should fight to make UNESCO's dream (1993) come true, this is, in the near future: *the obtuse nationalism should let universalism, tolerance, understanding and pluralism pass by and manage to change a divided world into a technologically united world.*
- ? The work organization is more oriented to group decision making with common objectives requiring effective communication among persons in a democratic, solidarity, mutual respect environment. At the same time, it is necessary to incorporate technology and distance communication.
- ? The underdeveloped countries need to join the universe of science and technology, place its services and products in its transnational markets and carry out global strategies in order to increase its competence level. New technology opens new perspectives to allow the access to high level science and technology.
- ? Mexico, like many other countries, is living a deep transformation. Globalization, technological life and world alliances challenge Mexico to guarantee the international competitiveness of its products, promote jobs and increase the life level of its people. It is a priority to improve the level of the company to make it competitive, and it could be when his work force might turn competitive as well , therefore, the education and the permanent training becomes requirements.

Challenges of the future university

The new social and working context demands new functions and forms to understand education and perform it. In 1998, in Paris, a worldwide meeting

was organized by UNSESCO with the purpose to reflect on which would be the educational offer of graduate education for the 21st century.

The result of this meeting can be synthesized in the most important challenges for the future university which are presented in Table 1.1.

The national context of graduate education

In Mexico, the federal government proposed in the National Growth Plan (2001-2006) considers education as the main objective of the great national project. In the undergraduate and graduate education, it aims to:

- ? Respond to the requirements and needs of the regional and national development.
- ? Have Mexicans acquire knowledge, competence and skills, as well as, attitudes and values which are necessary for their complete development and for the country's improvement.
- ? Review teaching practices and assume as priority the transformation of the pedagogical processes.
- ? Guarantee that all students build their knowledge based on thinking and access strategies. They should also be able to develop strategies to use, interpret and organize information in a responsible way.

*In order to fulfill its tasks, we believe education should suffer a radical transformation so that it could carry out a mission which is every time * more vital for the construction of a better world. Rassekh, 1992.*

Table 1.1 Challenges of the future university

UNESCO United Nations Educational, Scientific and Cultural Organization

- ? Shorten the distance which in the field of technological and scientific teaching separates industrialized countries from the ones that are not industrialized.
- ? Go beyond the nationwide knowledge, developing in the individual global consciousness which represents the world as a whole, and help the individual to be aware of other cultures.
- ? Make their people citizens of the world without losing their origin, and assure the active participation in the nation and community's life, especially in underdeveloped countries.
- ? Inculcate, both in elementary and professional education, the liking and pleasure of learning, the intellectual curiosity and the self-learning ability, to assure permanent education.
- ? Develop the ability to apply knowledge to solve problems and transfer them to new situations to adapt him/ her self to a world which is changing rapidly.
- ? Use the richness of new information and communication technologies and integrate them to educational areas in order to improve the learning process and give each individual the same opportunities.
- ? Acquire a broad knowledge and the ability to work and communicate effectively in institutional connections and networks which can be national or international.
- ? Give students the necessary tools to understand the world with an autonomous and critical knowledge.
- ? Develop an obligation with reality, understanding the most important problems of society and train students to detect, analyze and solve new problems.
- ? Promote student interchange, taking to the classroom the richness of cultural diversity.
- ? Encourage cooperative activities with the community to enrich the academic and ethic life of an institution.
- ? Promote team work and contribute to social cohesion, taking into account the richness of personal expressions in plural contexts in a respectful environment and showing appraisal to other cultures.
- ? Assume the diversity as a value in the classroom and help students to consider their classmates point of view, encouraging the debates about dilemmas which require ethic decisions.

- ? Encourage cooperative work which orients students to acquire leadership and innovative skills.
- ? Make effective use of technology from a pedagogical perspective as a way to strengthen professors' skills.

Results of the Tec consultation

In addition to the international and national educational demands, the results of the consultation done to the society were incorporated. In this research it was found that Tec's graduate students are distinguished by the following:

- ? They show a relevant participation in the country's leadership.
- ? They occupy different positions in their professional life.
- ? They are distinguished by their entrepreneur spirit.

These data show that during their professional life graduate students face situations that require knowledge and skills which are different from the ones he/she acquired at school.

This phenomenon, which is derived from the conditions of the work market in the last decades, shows the need to develop in the students' the ability to learn by themselves. On the other hand, the following goals in which the Tec can collaborate to benefit its country were identified:

- ? Creation of jobs
- ? International competitiveness
- ? Democratization
- ? Improvement of education

Definition of the mission for 2005

Based on the previous research, the mission of the Technology Institute of Monterrey was established. This mission defines the institution as: A university system which has the mission of educating individuals who are committed to the social, economic, and political improvement of their communities, and who are internationally competitive in their areas of specialty. Carrying out research and extension relevant to Mexico's sustainable development is also part of the Institute's mission.

In order to present the mission, a document which integrates goals, strategies, programs, guidelines and the bases of the educational model was elaborated, as it is show below:

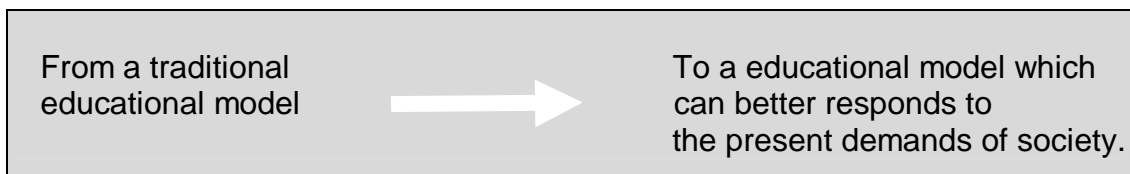
1. *It is important to promote through all the activities the development of students' profile set forth in the mission, which is shown on Table 1.2*
2. *The learning process should be centered mainly in the student. It should promote the self-learning process and require the student to take a very active role in their own education.*
3. *Activities should be supported with appropriate technologies, using telecommunication systems, computer net works and multimedia.*

These guidelines show an educational change which has influenced almost all the areas of the teaching-learning process: it incorporates educational objectives which enrich the knowledge area and also includes more international knowledge, resources improved with new technology and an important change in the professor and student's role.

In order to fulfill this challenging mission, the Tec of Monterrey has planned specific strategies. The first and most important one is: to carry out a *reengineering of the teaching and learning process*, fortified by the *developing the Virtual University*, that supports the remote communication and interaction, and the *internationalizing of the Institute*, that promotes the development of a more universal thought in the directors, professors and students, in association with prestigious foreign universities

In order to reach this challenging mission, Tec of Monterrey has planned specific strategies. The first and most important strategy is:

This educational approach assumed to pass:



The proposal of an educational change was the beginning of a new stage in the history of the institution and *in this way Tec of Monterrey would face the most important goal since its foundation*, as stated by Fernando Esquivel, academic vice-president of the institution.

In this concern, Tec of Monterrey joins the effort of many universities which have initiated this educational change or which have consolidated it. Some of these universities have been acknowledge not only in their countries but also in the world educational field. The Institution has created alliances with some these universities and has encouraged the interchange of professors and students, the interchange of experiences and the interchange of investigations and publications. These alliances have strengthened the internationalization of the education and the work of the institution.

Table 1.2 Abilities and attitudes that students develop at Tec.

Students Profile

Abilities	Attitudes
? Self-learning	? Honesty
? Analysis, synthesis and evaluation	? Responsibility
? Creativity	? Entrepreneur spirit
? Problem identification and solution	? Work culture
? Decision-taking	? Sustainable development commitment
? Team work	? Change agent
? High quality work.	? Respect to other persons' dignity
? Efficient use of computer science and telecommunications.	? Vision of an international environment.
? Correct use of English	
? Good oral and written communication.	