

We should participate in the construction of life forms which take men more into account; show solidarity, believe in human dignity and favor it; consider the relation between the human being and his environment.

José Martí

4. Development of personal qualities and integral formation of the personality

As part of its Mission, the Monterrey Tec considers very important to assist and foster learning styles that contribute to the integral formation of the students' personality, and those learning styles which are part of their academic development. This is not a new thing in the institution: since its foundation this has been present on professors' and students' habits, although it has not been explicit in the objectives and practices.

Assisting the formation of the students' personal qualities and their integral personality is a task that makes professors worry about their impact on students' personality through their daily interactions and the environment that surrounds them. This educational environment is closely related to the development in attitudes and values.

Values act as guides and principles that rule people's behaviors and help shape personality features. Values in the formation process *are the foundation for every judgment, decision or action made by an individual through his/her life.*

Tec, being aware of the importance of attitudes in a professional who will be making significant decisions in the society as well as in the working world, has defined within its mission a student's profile by a series of personal qualities such as honesty, responsibility, culture of work, personal development, respect for human dignity, clear awareness of national and regional needs, commitment to the development of the country and its local communities, respect for the environment, appreciation of culture so that they are leaders and agents of change in the society where they live.

Promoting this profile intentionally was and continues to be the biggest challenge that professors are facing now when implementing the student-centered Educational Model and has not been an easy task. Professors had to overcome a lot of obstacles. The first step forward consisted on understanding and accepting that the University is also responsible for the formation of the students' personality. So far, a great number of professors used to think that this formation process was done exclusively through their family, elementary or religious schools; additionally, a lot of professors thought that students coming to the university had a defined personality and little could be done about it.

In order to overcome this misconception, the next step consisted on asking ourselves how values and attitudes are taught and learned without a theoretical background; how values and attitudes are integrated into the subjects such as chemistry, math, accounting, administration. We also asked ourselves what professors should know about values in order to be able to promote them in their classes. Applying this characteristic of the Educational Model, has not been

mastered by professors; however, significant progress has been made thanks to all educational community and especially thanks to the faculty members.

How personality and character are modeled at the Monterrey Tec

Through a variety of projects and activities from different environments and strategies, the Monterrey Tec enhances the students' development of attitudes and values. From a practical point of view, these actions may be arranged into three categories:

1. Extracurricular activities and projects to generate environments that change the students' attitude and behavior through an interactive process.
2. Extracurricular activities and projects, established by institutional programs, to support the development of the student's integral personality.
3. Academic activities and projects to foster the students' attitudes and values. This category refers to those explicit or implicit activities included by the professor in the course in order to be observed, analyzed and evaluated.

Learning attitudes and values through extracurricular activities which are part of the institutional culture

This way of enhancing attitudes and values is made implicit in every type of relation and interaction the students have with their institutional environment. The idea is to transmit the values and attitudes in the everyday life within the institution, which must be reflected on the behaviors of the people who work in this Institution: directors, administrators, students, technicians, and specially, professors.

Even though these learning transmissions are not part of the curricula, the Institute strongly promotes them everywhere because they play an important role on the students' personality.

In order to fulfill these values, the Monterrey Campus named a committee formed by students, professors, directors, professionals, administration personnel, staff from its community to develop an Ethical Code that would establish values, ideals, and behaviors that should rule all persons. On table 4.1 the main elements of this code are shown.

Table 4.1. Code of Ethics

<p>Main Values</p> <p>Justice: As an environment of rectitude and equity that puts the common good before personal interest in order to create constructive, harmonic and enduring relationships.</p> <p>Honesty: To create relationships within an environment of trust and authenticity in every action observed.</p> <p>Respect: To reach a kind everyday relation among people and nature.</p> <p>Responsibility: To fulfill the commitments agreed and develop one's tasks entirely.</p> <p>Freedom: As an essential element to develop independently one's personality within an environment of respect to the rights of others.</p> <p>Equality: To create relations and activities based upon respect for personal dignity and inherent rights promoting impartiality on every action without discriminating ethnic, social or cultural groups.</p> <p>Solidarity: To assume a supporting attitude, interest and collaborative work towards other people needs.</p> <p>Open to dialog: As a means to maintain an open, appropriate and clear communication to reach agreements, find fair solutions and solve conflicts</p>

To reinforce values, Tec is also developing an academic project with great scope: *Philosophy, Ethics and Values*.

Among the actions proposed, the academic component on Ethics will be strengthened within the training programs for our Tec professors, the programs of didactics for professors specialized on ethics, the required ethics courses for undergraduate students, including topics with an ethical implication in some subjects as part of the academic curricula, programs to spread the best methodologies to develop values and a Ph. D on Humanities with specialty on Philosophical Anthropology, Citizen Ethics and Didactics of Values.

Programs for training non-government organizations, learning community centers for professors and directors from public schools, and government employees with whom Tec will fulfill one aspect of its responsibility with the society.

Learning attitudes and values through extracurricular activities established by institutional programs

In this category, the extracurricular activities are included to form the students' personality and are offered by the Direction of Student Issues whose Mission is to foster the following human qualities:

- ? Appreciation of cultural, historical and social values of his community and the country.
- ? Leadership committed to the development of his environment.
- ? A commitment to good physical condition as part of their formation.
- ? Team work

In order to fulfill this goals the options offered by the students are:

- ? Participate as main characters in artistic and cultural activities as well as in sports.
- ? Participate in student groups and student societies where cultural events are promoted. These groups work as a main connection between students and the academic authorities.

I realized that our country has a strong need for education which is important at all levels. I learned that simplicity is a basic characteristic to be humane professionals, so that materialism doesn't become our only goal.

Nelly Rivas, student.
Mexico City Campus
Mexico, 2001

It is also important to mention that there are activities promoted by the Social Formation and Community Programs of the System. This Direction has the purpose of developing the students' commitment to their community through programs supporting the social, economical and educational development of marginal communities as well as supporting institutions of social assistance.

These activities foster the following values and attitudes:

- ? A clear consciousness of national and regional needs.
- ? A commitment with the development of the communities.
- ? A commitment to being agents of change for improvement.

The community service programs and actions are directed towards a lot of areas, some of them are the support to the production development, the community infrastructure, the commercialization of products; education and training, the attention to persons with special capacities and social assistance.

Approximately 30% of the students participate in these activities, and they have shown a high degree of commitment to end the tasks regardless the extra hours they have to invest.

Curricular activities towards the learning of attitudes and values

This group includes those activities professors do either explicit or implicit as part of the course objectives. To widen the academic objectives and enrich them with formative objectives is one characteristic of the Educational Model that should be present in all courses. Depending on the context selected by professors, attitudes and values may be classified into three categories that require different activities for their development:

- ? From the student point of view as an individual, we are looking for an ethical way of living that inspires all his activities. Attitudes and values fostered are being integrated into the students' personality and his habits during the learning process which are part of the rules and behavior that the professor and student determine at the beginning of the course (See Table 4.2).
- ? From the student point of view as an individual who lives in the society, the civic and social attitudes should be reflected not only within his professional environment but also within his social and family environment.

Table 4.2. An example of Course Policies

<p>Course: Ethics in professional practice <i>Florina G. Arredondo T.</i> Course policies</p> <p>The professor is expected to:</p> <ul style="list-style-type: none">? Be punctual to turn in grades? Show respect to students as individuals? Prepare material? Be fair and objective in the evaluations? Be available for tutoring and revision? Be honest during the development of the course <p>The student is expected to:</p> <ul style="list-style-type: none">? Be punctual to turn in exams, assignments, reports and attendance to class.? Respect the professor and classmates within and outside the classroom? Participate actively inside and outside the classroom? Be honest when doing the assignments? Interest for being better persons each day <p>Within the discussion sessions students are expected to:</p> <ul style="list-style-type: none">? Participate with high quality comments or relevant information? Get prepared in advance, analyzing and sending a report through Blackboard (can be supported in some methodologies for the analysis of the ethical dilemmas).? Participate in a proper way, without interrupting anyone who is talking.? Present arguments to decisions made by some of the classmates showing respect and supporting the comments on reliable sources.? Criticize the ideas only, avoiding the criticism on the person that exposes them.
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*I learned a life lesson:
Humbleness. If we don't learn
how to listen, if we don't put
on one's shoes and don't
forget about prejudices, we
will never realize how
valuable people are.*

Adriana Reyes, student.
Guadalajara Campus,
2001

Some of these attitudes refer to the collective awareness reflected when respecting the rules for everyday activities. The implicit attitudes and values in these type of relations are incorporated into the learning process through collaborative activities where students are asked to work in organized groups according to democratized participation so they face everyday problems within the academic life.

- ? From the student point of view as a future professional, we are looking for ethical professionals who not only master the science and technology of their majors; but also that they are able to reflect about the social, political and economical consequences that the application of science and technology may cause. They have the chance to exercise decision-making based upon sustainable human development principles; these attitudes can be fostered through reflection as part of the content of a course, as it is shown on table 4.3.

Judgments and decision-making with an ethical sense are practiced through these reflections when trying to reconcile and integrate science, technology and ethics which have been present in the University environment in different ways. Within this process, science not only becomes an object of study but it also becomes an ethical reflection. The ethical dimension in the professional practice should be reflected in all the behaviors and acts of the Tec graduates and it is fostered in the classrooms through case studies, solution to real problems, development of projects, role playing, simulations, and some other strategies.

Supporting centers for development

The Supporting Centers for Development (CAD for its acronyms in Spanish) were created to reinforce the formation of a professional committed to his community and country and also to support the course activities designed by the professor. These Centers are part of a program whose purpose is to connect the academic knowledge of the students and professors by practicing what they learn in class in communities and regions where the Campus is located.

In the courses offered by CAD, students are organized in team works from different or the same carrier, then they become responsible for a project under the leadership of a professor, they also establish a work agreement which is signed between the company and Tec where they detect areas of opportunity and diagnose, then they elaborate a proposal that is authorized by the company. Finally, they develop, implement and evaluate the solutions proposed. During this process (which lasts one academic year), reports are made and at the end, students present the results of the project and are evaluated within an executive session where everyone participates.

Table 4.3. A student's testimony

Ethics and technology

Talking about sales of equipment like printers, photocopy machines, computers, I read about a company called Lexmark that makes ethical sales and offers post-sales service to its customers. These ethical sales consist on selling only the equipment that the customers really need. Regarding the post-sale service, it consists on training the customer in the use of technology so that he is able to utilize the total capacity of the equipment rather than using or misusing some functions; besides the maintenance service.

Another important topic related to ethics and technology are the so called crackers, that is, software experts that are able to invade and sabotage systems, such as votes in the election process, banks, stock exchange, data base for academic records in schools, among others.

There is also the misuse of data, for example, supplying confidential data of customers, like credit card numbers, addresses, personal data that can be used by other companies or individuals who might benefit from it, to send propaganda, or just to bother.

To sum up, I would like to share something I got through the internet quoting Albert Einstein who used to say: "the ethical progress is the only cure for the damage caused by the scientific progress". This article mentioned that ethics should be a stronger force than science or politics, because through ethics, the gap between technology (in general) and human needs can become smaller.

Cristina Méndez Escamilla, graduate student
EGADE, Monterrey Tec

These projects fulfill three objectives: students learn, professors teach beyond the classroom, and contribute to the improvement of the organizations involved in this project.

1. These projects make students learn the following:

- ? Know directly the real world of the companies and organizations.
- ? Have a clear awareness of the needs of the country and its regions.
- ? Develop the ethical reasoning
- ? Apply their knowledge in real situations.
- ? Learn how to make decisions, to structure problems, to program activities, to administer time and work collaboratively.
- ? Participate in the progress of local companies.
- ? Acquire abilities, attitudes and values which identify them as agents of change in the development.

2. These projects allow professors to:
 - ? Be in touch with real situations in which the knowledge from their specialty is applied.
 - ? Generate research and extension which are relevant for the development of the community.
 - ? Enrich their teaching experience and strengthen their leadership.

3. These projects benefit the companies and organizations in the following ways:
 - ? They receive feasible proposals which are implemented in order to solve specific problems.
 - ? They are provided with tutoring and technological support at a reasonable cost in order to face problems and continue developing.
 - ? They receive support to increase their competitiveness with updated technology.
 - ? They help with the formation of future professionals under a commitment of sharing their growth.

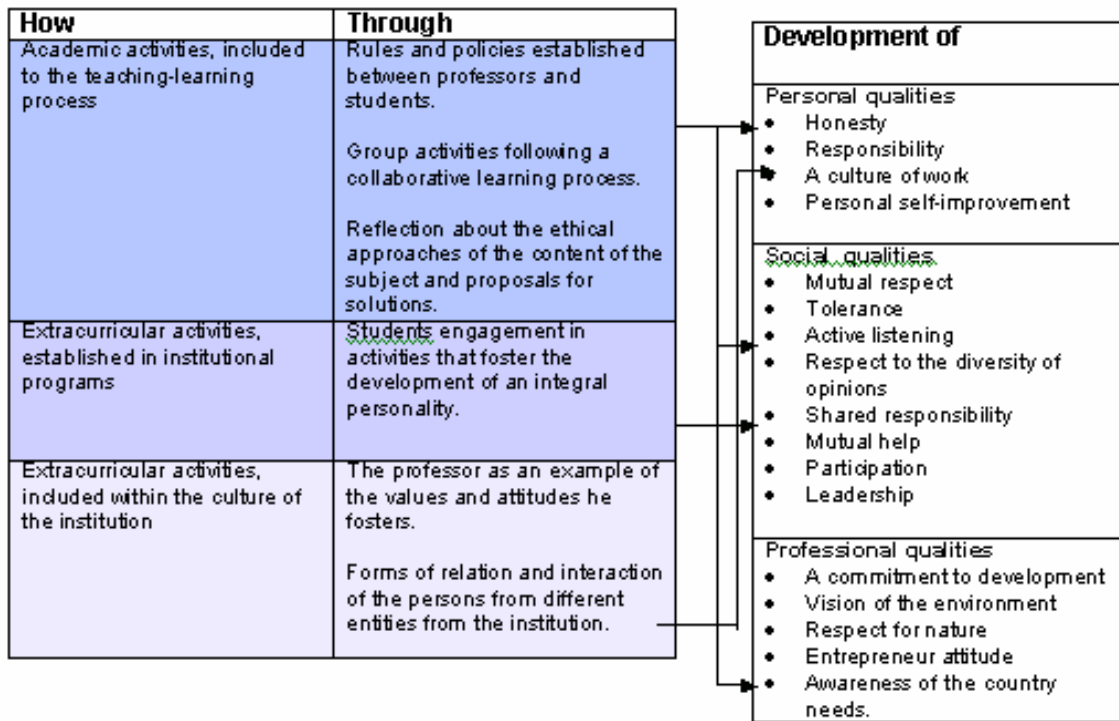
Next, an example of a project for tutoring a shoe-manufacturer company will be explained.

Case: The Three Dee Company
By students from Leon Campus

In Leon Guanajuato, Mexico, a regional impact project was achieved, the participants were the workers of a shoe-manufacturer company, students and professors from the Leon Campus, as well as members of the Chamber of Shoe Industry from the State of Guanajuato (CICEG for its acronyms in Spanish). The purpose was to help this local industry become more competitive in the global market.

The tutoring provided was focused on the improvement of processes and the reduction of inventory. At the end of the project they obtained satisfying results such as an increase on the capacity of production; the implementation of indicators, control points and measures which show the production status and support decision making, as well as the redistribution of the plan and its installations. They changed from line production to cell production in such a way that workers obtained a clearer awareness of the process and their own functions and at the same time, workers acquired a commitment with the company and more integration with their workmates.

Figure 4.1. Diagram: Development of personal qualities and integral formation of the personality.



Personal qualities and characteristics of the integral personality

All professors were required to have the same concept about what is understood by each of the attitudes and values that will be promoted to students. An opinion poll was carried out among Tec professors and the result was a document called Values, Attitudes and Abilities. Operational definitions (1999), it offers suggestions for the professor to select activities. Next some activities related to the topic of this chapter are defined.

<p>Honesty</p> <p>This attitude is related with truth; it refers to an appropriate way of acting which is coherent with the rules and principles socially and individually accepted.</p>	<p>Professors expect that students:</p> <ul style="list-style-type: none"> ? Tell the truth at all times, even above their personal interest. ? Be congruent between what they think, say and do. ? Speak with objectivity and precision, without manipulating the decision of others. ? Recognize anybody's work and effort without trying to benefit from it. ? Be accurate on assigned research. ? Be respectful of the laws without the need of supervision and
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	<p>? censorship.</p> <p>? Respond back to the trust from others.</p> <p>? Participate in evaluation processes of their own learning and their classmates.</p> <p>? Create honest codes of behavior when facing a common project.</p>
<p>Responsibility</p> <p>It is reflected on an attitude always willing to help in every detail related with life and work. It is the student's capacity to respond to his/her actions and accept their consequences and also to fulfill the compromises agreed without the necessity of being pressured.</p>	<p>Professors expect that students:</p> <p>? Fulfill their compromises</p> <p>? Foresee the impact that their decisions have upon other people and areas.</p> <p>? Assume the consequences of their actions.</p> <p>? Cooperate with the establishment of policies that rule the behavior of the group.</p> <p>? Foresee and act to face any threat that could damage the quality of life and the natural environment.</p> <p>? Look for solutions to problems and act accordingly.</p>
<p>Respect for human dignity and inherent rights</p> <p>This attitude refers to the consideration and acceptance of other people and ourselves, as well as the environment that sustains every form of life. This is the basis for authentic coexistence and human sustainable development.</p>	<p>Professors expect that students:</p> <p>? Foster through their actions respect others regardless their ethnic, cultural and social condition.</p> <p>? Participate in negotiations in group and act accordingly.</p> <p>? Enrich their personal proposals in discussions to be aware of different positions.</p> <p>? Present his personal opinions and listens with respect and interest the ones from the others.</p> <p>? Disagree with ideas and opinions without adopting aggressive positions towards their classmates.</p>
<p>Attitude of self-improvement</p> <p>This attitude is the result of the</p>	<p>Professors expect that students:</p> <p>? Have a strong desire of</p>

<p>individual reflection to compare his actual status with an ideal so that one can direct his actions to the improvement . This attitude makes people set their own plan for life and seek to achieve their goals.</p>	<p>improvement and becomes responsible to make it real.</p> <ul style="list-style-type: none"> ? Welcome judgments coming from others as an opportunity for improvement. ? Accept new challenges in their work. ? Analyze their personal behavior and suggest actions for improvement. ? Evaluate permanently the results of their actions. ? To persist in overcoming failure and propose alternatives for success. ? Enjoy success obtained through effort and perseverance.
<p>Work of culture This attitude consists on achieving high levels of opportunity through an appropriate organization and planning. This implies a group of productive and discipline activities towards a goal.</p>	<p>Professors expect that students:</p> <ul style="list-style-type: none"> ? Frequently increase their job standards. ? Face the obstacles and insist in obtaining satisfying results. ? Manage appropriately their work load. ? Work constantly in an organized way. ? Recognize the importance of work for the development of the country. ? Offer the best of themselves during their office hours. ? Be willing to work extra hours in order to finish their tasks. ? Create an action program to perform a task and fulfill it. ? Accept and face new challenges.
<p>Entrepreneur attitudes This attitude consists on looking for opportunities to cover needs within the environment through innovation. This entrepreneur spirit includes a process of creativity, a measure of opportunities</p>	<p>Professors expect that students:</p> <ul style="list-style-type: none"> ? Plan and organize projects of innovation to cover a necessity or improve something. ? Be clearly aware of how jobs are generated and practice this

<p>and an efficient management of resources.</p>	<p>process.</p> <ul style="list-style-type: none"> ? Face the obstacles when innovating and be persistent on obtaining satisfying results. ? Observe, analyze and foresee needs and plan solutions. ? Identify and design new products and services to offer solutions to the needs of their social and political environment. ? Act with a visionary and creative capacity in search for solutions.
<p>Leadership It is a capacity composed by many variables which make the leader get the necessary vision to establish the direction of the group actions and their development and generate self-improvement spirits to achieve set goals.</p>	<p>Professors expect that students:</p> <ul style="list-style-type: none"> ? Commit themselves with their individual and group development within their team work. ? Be enthusiastic, pro active and organized in the group activities. ? Show the capacity of negotiation and initiative. ? Get interested on improving their social environment ? Show excellent communication skills. ? Collaborate with the organization of academic events directed by students. ? Guide projects of social community development. ? Establish relations to obtain resources and support for the course development, like speakers, visits, and panel discussions.
<p>Respect for nature This attitude is shown in a real concern about the environmental problems and the care nature deserves to avoid exhausting resources. It is a concern about the importance of natural resources for men, it means to be aware of the benefits and their impact</p>	<p>Professors expect that students:</p> <ul style="list-style-type: none"> ? Use and benefit from natural resources in a rational way; preserving these resources for future generations. ? Avoid actions that damage nature, such as the excessive use of contaminating products.

<p>of industrialization and urbanization on the life of plants and animals.</p>	<ul style="list-style-type: none"> ? Consider themselves as part of the environment and act in favor of the environment preservation. ? Engage in campaigns and programs for ecology awareness and ecology preservation. ? Study the effects any project has on the natural environment. ? Have information about ecological issues and their regulation. ? Do some field research to identify problems related to ecology and health. ? Analyze real cases of ecological damage caused by companies inside and outside the country. ? Visit different companies in order to know their strategies to protect the environment.
<p>Appreciation of culture</p> <p>This attitude refers to the appreciation of our own traditions, arts and some other cultural manifestation and the ones from other cultures; it is the appreciation of the customs and principles that rule the countries' way of life in order to understand their idiosyncrasy and reflect about the fact that one's culture is the result of his social heritage and may be improved towards future generations.</p>	<p>Professors expect that students:</p> <ul style="list-style-type: none"> ? Know the roots of their own country and have a solid knowledge of the history, customs and traditions from different regions of Mexico. ? Collaborate with institutions that promote culture. ? Participate in international programs to be in touch with other cultures. ? Organize expositions, fairs, and symposia which promote a cultural aspect of their country or region. ? Attend cultural events inside and outside the institution. ? Analyze social and economical aspects from different cultural points of view.
<p>International outlook</p> <p>This quality is related to the knowledge of the elements and phenomena that are part of the interdependence in societies, organizations and individuals</p>	<p>Professors expect that students:</p> <ul style="list-style-type: none"> ? Be able to interact with people from different cultures. ? Have a global way of thinking. ? Be informed about the main

<p>in important fields such as economics, politics and culture including a cultural outlook to avoid confusions. It is related to success and appreciation of cultural diversity and the interdependence among countries by accepting the historical and cultural roots.</p>	<p>international news on political, social and economical contexts and be trained to analyze their impact on the national context.</p> <ul style="list-style-type: none"> ? Understand Mexican traditions and customs within an international context. ? Be able to act when facing situations of conflict , injustice, inadequate distribution of wealth, illnesses and ignorance. ? Be able to understand different positions to face a situation depending on people´s national and cultural roots. ? Get to know their professional practice in other countries and identify opportunities to establish relationships.
<p>Commitment with the sustainable development of the country and their local communities</p> <p>This attitude is related to an internal obligation to preserve the environment and the social equilibrium, that consists on satisfying the current needs without limiting future generations for satisfying their own. It means to show concern for the well-being of the Earth ecosystems and keep and take this concern to the economical field.</p>	<p>Professors expect that students:</p> <ul style="list-style-type: none"> ? Know aspects that can be improved in the country and be a positive influence. ? Show interest to intervene in the economical, political and social development of the country, and its regions, doing concrete activities to benefit such development. ? Carry out projects to solve problems in the company. ? Collaborate by generating job opportunities and producing internationally competitive goods and services. ? Engage in activities for the common good of their community.

Other qualities to be reached on students as part of their development towards integral personality are:

Commitment to health care, being aware of its importance to reach an integral welfare.

Good oral and written communication skills, not only as a means of conversation but also as an instrument that allows individuals to participate in the communities life and interpret the world that surrounds them.

Proficiency in English, as a means to access the Universal knowledge and to get updated with progress on science and technology as well the world events. It is also a means for students to face the academic and business world because collaborative work with foreign people has become an everyday practice.