CHALLENGES OF THE NEW PARADIGMS IN THE RELATION TEACHER-STUDENT

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Abstract —— Traditionally, the essential element of a good teacher in higher education levels, used to be the command of a field of knowledge. In recent decades, the importance of pedagogic aspects was increasingly recognized. At the present, technological progress and its application to the teaching-learning process, are determinant for the relation teacher-student and demand the former to accomplish a more effective learning and to use new tools and resources. Modern teaching faces important challenges, such as the transition from the paradigm of the teacher-authority to the teacher-promoter of learning and human development; the increasing critical attitude of the students; the development of new skills and the necessity of a more active roll of the student in the process. This paper presents a background, the results of a questionnaire applied to teachers of the institution about this aspects, proposals and conclusions.

Index terms — Modern teaching, Relation teacher-student, teaching-learning process.

INTRODUCTION

One of the essential elements in current education is to improve the communication process among teachers and students. To overcome some problems that the student faces to access to education when he inhabits rural areas or when he lives in large cities, is a difficult task. They have to cover long distances to attend school, with consequences such as: thousands of unproductive hours employed for transportation, less time for personal and professional activities, physical fatigue, stress and other problems as pollution, expense of energy, risks and insecurity. All these elements outline the necessity of looking for alternative models, capable of facilitating the communication among teachers and students.

In this sense various authors point that distance education presents characteristics, such as:
- Good cost/benefit balance to satisfy the necessities of the formation.
- Extension of the formation to organizations and collectives.
- Reinforcement of the inter-regional and international transfer of experiences, conclusions and formative materials.
- Demand of students commitment and high motivation level.
- Responsibility of the student himself in the learning process.

The introduction of new learning methods like the above mentioned ones and others, is modifying the idea of centering the teaching-learning process in the school. This fact, together with the relatively recent incorporation of new communication and information technologies, opens new horizons for the education, offering real possibilities of increasing satisfaction for a growing number of people, interested in institutionalized education but living in distant areas.

With reference to the means, the use of video, audio, television broadcasting and incorporation of the new communication technologies like: electronic mail, virtual spaces, real time communication and satellite connections, among others, generate many expectations regarding education productivity and effectiveness.

ANALYSIS

A. – Net supported teaching and its characteristics

Teaching based on the support of computer nets is a resource which has achieved, and still registers, an impressive development. The interest in this tool type has generated great discussion and controversy, as well as a great deal of literature about the association between technology and its applications to education. In some discussions, qualities that, in fact are not inherent to net based teaching are attributed to it; although they were already observed in other teaching methods, not necessarily associated to computers nets. Distance teaching and individual teaching share some advantages with web based education. The following table shows in brief a chronology of the world development of non-present education.

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TABLE I
Brief chronology of the world development of the non-present education

Date	Place	Observations / Comments
1728	Boston Gazette	Self -instructive material sent to students by mail .
1840-1843	Isaac Pitman. England	The Phonographic Mail Society is created; its objective is to deal with shorthand exercises corrections
XIX century	Thomas Foster and the Mining Herald (Pennsylvania paper).	Attempt to teach mining and prevention of mine accidents.
XIX century	Industrial cities of Western Europe and the U.S.	Effort to help people who didn't attend regular schools, due to various reasons.
1938	Victoria, Canada	The first formal action to promote distance education. The First International Conference on Mail Education is carried out.
1939	France	The National Center of Distance Teaching is created, to assist war refugee children by mail.
1947	School of Letters and Human Sciences, Paris, France	Masterly classes in almost all literary subjects were broadcasted by Radio Sorbonne.

Date	Place	Observations / Comments
End of 2nd War World	Central European countries and developing nations.	Literacy plans and other popular education programs.
60´s and 70's	Various countries	A broadcasted high school program starts operations in Spain. The University of Delhi creates a department of mail education. The Telesecundaria System is created in Mexico in 1968. The Open University is created in England in 1969.
80´s		Distance education evolves into a truly interactive tool with videoconferences application.
90´s		A new pedagogic attitude places the student in the first line and the institution in second place. Computer nets reach great development.
End of the 90´s and beginning of the XXI century		Offers cover different levels of the education (systematic, non systematic, professional, training and permanent education).

It's interesting to point a fact which can explain the quick spreading of computer nets based teaching, in particular through Internet, as one of many applications of this technology. Since the emergence of the radio, forty years passed until this communication medium reached 50 million receivers in the United States; television reached that number, in the same country, in thirteen years; but only four years were necessary for Internet to get such a number of users in the U.S.

Internet possibilities include the transmission of knowledge, images, texts, sound, animation and even dialogue in real time, to a multitude of users, wherever they are located in the world, at a reasonable and decreasing cost. Consequences in present teaching, as well as in distance teaching, are obvious but it is evident that the impact is observed mainly in the latter. Indeed, distance education registers a deep transformation with Internet tools.

It is necessary to point out that several tools have been developed for the implementation of teaching with the help of computers nets; some of them reached wide acceptance. These tools differ in hardware requirements and training level for their use. Some of the most popular ones are Blackboard, Mentor ware, Learning Space and WebCT. None of them is probably the best for all the approaches and science fields.

Michael Dertouzos, in his book "What Will Be", states that there are still some questions to be answered, regarding learning with the use of computers:

Does it improve the capacity of the students retention?
Does it help to build complex ideas starting from simple basis?
Does it improve the capacity for problems resolution?
Does it provide new perspectives and conceptual horizons?
Does it promote a better cooperation among students?
Does it strengthen the feeling of belonging to a community?

From the point of view of the evaluation, the new technologies present a great challenge for academics and researchers. It is not only necessary to evaluate the academic capacity but also other variables which are extremely difficult to measure; for example: the students emotional learning and the student's identification with the educational community.

The support, not the substitution, of teaching based on nets to present teaching, is an aspect with a very important projection, for it provides the teacher with a set of new teaching means, not to replace, rather to complement conventional ones, such as audiovisual means and even the use of the computers not necessarily associated to nets.

Regarding this aspect, the World Conference on Superior Education, sponsored by the UNESCO, in Paris, October 1998, produced a document which had wide dissemination: "World Declaration on Higher Education for the Twenty First century: Vision and Action" Its article 12 is entitled: "The potential and the challenge of technology"; it declares that "The rapid breakthroughs in new information and communication technologies will further change the way knowledge is developed, acquired and delivered …" and that they…" offer opportunities to innovate on course contents and teaching methods and to widen access to higher learning. However, it should be borne in mind that new information technology does not reduce the need for teachers but changes their role in relation to the learning process and that the continuous dialogue that converts information into knowledge and understanding becomes fundamental."

B. - Prospective trends in education

The revolution in the educative process conception involves different elements; not only Internet, demanding a new role by the teacher, the student and the institution. Flores Ochoa suggests the trends of the education for the next decade:
1. Tendency to decentralize the education, detaching it from the classroom, the schedule, the fixed group of students and the professor's constant look. (non-present, non formal education).
2. Tendency to substitute the technical school for the direct presence of the students in the production centers. These last ones spread to assume the technical training and the professional formation of the employees more and more intensively, considering the growing distance between the technological advance of the companies and the technical backwardness of the schools.
3. Tendency to a less massive education and to emphasize the individualization through two different roads:
   - Allowing such curricular flexibility, so that each student can self-design his own curriculum based on his characteristics, interest and capacity.
   - Increasing the use of more totalizing multimedia, mainly those that present higher versatility and interactive communication.

4. Centers of cultural and scientific-technique information with guides instead of teachers; they will replace little by little the conventional schools.
5. New strategies for the search of information will be promoted beyond the formal logic, the memory and the

simple conceptual discrimination; more global, holistic strategies, creative intuition, evaluative synthesis, etc. as an effective answer to the quick explosion of new knowledge.
6. In the intricate and dispersed tangle of ideas, knowledge, theories and ideologies of all type, the contemporary teacher needs to recycle his function of keeping and transmitting information, to become an universal sensor and, at the same time, a fine conceptual selector of the range of his specialty with research capacity in the area. Thus, he will guide, with security and authority, the first steps of those students not included in his specialty, and at the same time fortify the creative abilities of students who are in his specific field.
7. *The new teacher's authority shall be supported in his knowledge, and it won't require the imposition of the institutional punishment to be accepted. His task is neither to dictate class, nor to give instruction, nor to transmit formulas, theories or concepts. The student is the main actor of his new knowledge, the teacher is rather a guide at the shade, a slope that the student should discover.*

CONCLUSIONS

Today, more than in other times, the prevailing idea of a school is the space in which the individual is linked with other individuals and with his environment; a learning process which goes beyond the classroom walls, in which a communication process is established to drive the student to modify, to enlarge and to enrich his formation outlines.

In this sense, the man's and world's transformation have been achieved through interaction among men, in which individuals and peoples who have not expressed their word were left behind.

As Paulo Freire refers in "The Pedagogy of the Oppressed": " Blocking the communication transforms men into objects"; he also mentions how the more quickly the interaction begins, the more revolution will be got in terms of learning.

These concepts, which go clearly against the traditional practice, were called by Freire "bank education". This is essentially anti-dialogical and non communicative; it continues existing in the environment of the education, in spite of the desire to overcome it.

Leaving the traditional paradigm behind implies for the educator to be removed from the protagonist paper that this model grants him, to open the way to educational models which grants the student's learning the central place in this process and where the means only constitute roads that facilitate the communication.

Therefore, the interactive process with the help of web, which is the professor's responsibility, will promote a climate of trust to encourage the students, freely and without

restrictions, to express doubts and questions related with problems of adaptation, learning or advance. These problems represent, among others, causes which interfere with the learning process.

The professor's function, with the support of communication and information technologies, will consist of designing the road to create, to maintain and to promote for the student aspects like: the internalization of knowledge for his learning, the development of his expression capacities, the inquiry capacity, the discrimination and the development of his critical capacity as elements to be selective, regarding the information accessed through various information media; also the modification of outlines, attitudes and values which lead him to achieve an ethical and responsible behavior and which offers him the real possibility to share experiences, as well as the feedback and evaluation, as inherent aspects to the teaching-learning process.

A new paradigm arises in this context; the formation with be supported in the communication and information technologies, which gather those forms of information susceptible of being digitized, such as: text, sound, graphics, fixed image and in movement, etc.

A mixed methodology with a present-virtual outline, where the student attends classes and carries out other academic activities with support of the electronic means of information, would allow him to contact the school regardless of the schedule, encouraging the possibility of an almost permanent contact. Examples of those academic activities are: consulting, problems delivery, work in group, search of information, gathering, handling and analysis of data and other administrative services, such as inscriptions, studies revision, administrative steps and records.

Communication through these means, using email or teleconference, would allow to promote analysis and discussion on diverse topics, the formation of small groups to comment with their advisor or their equals the revised contents, for feedback or to exchange experiences with other groups of other countries that are studying the same matter.

Therefore, the challenge of the current education, consists of how to take advantage of the technology; since independently of the selected methodology, it will promote an effective communication among students and teachers, in the same way that incorporation of computer science and the use of various technological means supporting the education, imply a paradigm change in the relationships among teachers and students.

As Litwin refers, "The new information technologies have created new communication forms, new work styles, new ways to access and to produce knowledge". It could be added to that... "and the acting of a new relationship teacher-student".

Finally, it should be pointed out that not all the virtues attributed to the computer nets based teaching are exclusive. By no means they arose with it. The truth is that distance education doesn't begin with Internet, neither the systems of individualized or tutorial learning, in which the student can study at his own rate and play a more active role in the process that the one he takes in the present teaching.

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