The Process of Learning in Undergraduate Dental Teaching: State University of Maringá Dental School

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The authors present and discuss the process of learning linked to a new curriculum for the Dental Course of the State University of Maringá (Parnaíba State, Brazil) based pedagogically on Instructional Blocks, Modules, Teaching Units and Integrated Cell Units. The authors establish a definite relationship between the innovated curriculum and the didactical process of learning and teaching.

This methodology has been implanted since December 1991 and the first results are stimulating in comparison with traditional methods. This comparison is possible because, in 1993, there are three classes still in the traditional and two in the integrated system.

Key Words: teaching, curriculum.

Of the almost ninety dental schools in Brazil, only a few are aware of the great importance of more modern and realistic teaching/learning methodologies, one of several topics to be enhanced when considering curricular innovation and/or reformulation, if we are to recover lost time and start an educational process that could follow some of the efficient actions of a number of developed and developing countries.

A more differentiated management in relation to an up-to-date didactical-pedagogic process is intimately associated with a curricular proposition based on a philosophy that foresees a multi- or interdisciplinary integration - coherent and logical - in a solid and transparent compromise of the University towards society and in the formation and practice of a general practitioner, biologically, technologically, scientifically, humanistically, culturally and socially involved.

According to Chaves (1969) ""professions exist to satisfy a necessity or a desire of society as a whole and Dentistry is no exception"". According to Conrado and colleagues (1970) ""the output will be a versatile professional, capable of assuming a behavior at levels
of decision, supervision and realization of a series of activities that involve risk and precision and contributing to solve the main epidemiological problems". Fonseca and colleagues (1977) stated that "it was identified in the majority of dental curricula: inadequacy to reality, tendency to precocious specialization, scarce social and preventive consciousness, low productivity related with common deficiencies of schools, public health services and private practices, evident elitization of dental assistance and unsatisfactory skill of dental teachers regarding educational modern technologies". We must agree with Lima's (1987) words: "schools spend more and more diverse energies preparing students for a world that no longer exists".

Regarding dental education, the crucial point in its process - and the great discussion - is what is to be taught and discussed in an undergraduate course. What must belong to continuing education and graduate courses will follow afterwards according to society and individual needs.

It is understandable that the course should be oriented by the curricular objectives and not by particularities of specific departments and/or subjects. The development of a learning process through a traditional system of isolated subjects, in Dentistry, has greatly contributed to overlooking the reality of collective problems. What needs to be sought after is the problem itself and not a specific course which is only an instrument.

The stimulation and enhancement - in an undergraduate course - of a teaching/learning oriented process as proposed by Conrado et al. (1990) for the State University of Maringá must be developed through a tutorial system as the basis of an integrated process simultaneous with theories and practices peculiar to multidisciplinary integrated Instructional Blocks (IB) taught in five years and composed of Modules (MD) and its Teaching Units (TU), which are, respectively: organized forms of the main curricular themes; the more relevant subjects with a certain level of specificity and with contents clearly based on final behavioral objectives; and the assemblage of specific subjects organized in topics, tasks and activities.

The IB are: Introductory, General Basic Sciences, Social Dentistry, Organization System, Basic Stomatology, Caries, Periodontal Diseases, Occlusal Pathologies, Buccal Diseases, Diagnosis, Clinical Learning, Multiprofessional Integration and Humanistic and Cultural Formation. (For a detailed explanation of the interrelationships among the IB, MD and TU, please contact the authors.)

During the course development, the IB and its MD and TU present themselves multidisciplinarily integrated in a logical sequence through Integrated Teaching Cells (ITC) which are a combination or assemblage of several activities of the teaching/learning process in a determined moment or phase of the curriculum, relating coherently the scientific and technological knowledges corresponding to different actions and responsibilities necessary to an integrated discussion of problems that constitute the center of interest indicated by the contents of the TU and respecting the increasing complexities of the profession and its parameters, from simple to complex, from preventive to therapeutical, from normal to pathological, from children to adults, from individual to collective and following the natural course of diseases.
Natural emphasis must be given to classical postulates (prevention, damage limitation and rehabilitation) and to levels of learning: information, knowledge, conscientious performance, routine performance and depth. (Please contact the authors for detailed information concerning ITC.)

The oriented or tutorial system plays a vital role in the proposed educational process. According to Fonterrada Vieira (1974) "a fundamental intention is to graduate a student that has learned to learn and is capable of looking for knowledge in an independent manner".

As an integral and most important part of the curriculum, that system defines objectives clearly interpreted in behavioral terms that substantially transfer emphasis on the teacher to the student, without the first loosing its fundamental activity and academic responsibilities.

Dental teachers must be trained educationally and not only as mere specialists in specific fields. They must be engaged pedagogically.

The system is primarily based on learning resources that can be activated by students with the supervision of academic advisors, placing an emphasis on more independent and self-directed methods in contrast with classical didactical methods still used at large in Brazil. Thus, both the curriculum and the evaluation system can be constructed to assure the attainment of professional competence and not the mere fixation and memorization of information.

The educational process must be one in which the integration of both expositive and experimental teaching can adjust the student to intellectual tools and creative activities necessary for a solidification of a mentality that is to be scientific, social, humanistic and cultural, keeping him up-to-date and adapting him to evolutive transformations, researching and experimenting in the sense of knowing and proving the facts of scientific, social, humanistic and cultural nature.

In Maringá, each group of approximately ten students is assigned to an academic advisor that will guide them in their specific formation and orient them in their personal or collective quests and needs.

It is a priority for the philosophical maintenance of a course such idealized that the advisor can act more as a general practitioner, thus consolidating the programmed integration and the curricular philosophy which is primarily oriented by some basic aspects such as: a general practitioner as the final output; an emphasis on the resolution of the main epidemiological buccal problems; the main needs of the population as a whole; the importance of working with qualified auxiliary personnel; permanent pedagogic and social assessments; promotion, education and prevention in health; the necessity of continuous education; the formation of integrated health teams and a permanent process of evaluation and reevaluation.

These goals do not put aside the specialist or the qualitative and quantitative teaching of theories and techniques related to diseases not yet resolved.

The authors are aware of the experimental character and of the initial difficulties which are natural to the whole process. Questions may arise: where to find, at this moment
of Brazilian dentistry, teachers that could match the ideal profile of an advisor? how to prepare them for such a task? could they be trained during the very exercise of their activities? a specialized course in didactical/pedagogical methodologies and education in Dentistry would be one of the positive answers? wouldn’t the future and more complete advisors be the graduates of the whole process?

Theoretically speaking, one supposes that any attempt to consolidate the proposed system is healthier and better than insisting on models of traditional fashion (purely technological and curative oriented) that lead to artificial fragmentations of diseases, unnecessary repetitions and irreconcilable philosophies.

A critical and analytical discussion is a must of the teaching/learning process under a logical perspective, the auxiliary role belonging to both teacher and curriculum, thus transforming the student as the main agent of his own learning.

Curricular organization should be more centralized in the quality of teaching and in answers as to “how”, “what” and “why” to learn instead of “how much” to learn.

The school, the teacher and the student, each with his part in the process, should develop their activities under a perspective of a dynamic process that can contemplate simultaneously the access to knowledge, the reelaboration of this knowledge and the application of this knowledge. Under this reasoning, classes will no longer be only technological training sites and become “laboratories” where knowledge is elaborated, recreated, amplified and applied.

The whole system and process is a challenge to be faced by teachers and students together.

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