SESSION II:

SCIENTIFIC THINKING IN MEDICAL EDUCATION - EXAMPLES AND APPLICATIONS -

PARALLEL WORKSHOPS

WORKSHOP A: MOLECULAR AND CELLULAR LEVEL

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The discussion approached from different viewpoints three main aspects of the theme: starting a new subject, its aims or objectives and structure of knowledge to be presented and possibly acquired by the student.

The students' naivety at the beginning of various courses is often so great that they are not able to formulate appropriate questions in the context of knowledge presumably acquired in previous courses or at secondary school. Thus it seems reasonable to give essentials at the beginning and to review relevant information from previous courses.

Teachers should be familiar with the aims of the course. These aims should be presented to the students and then evaluated at the end of the course with an exam. Since students must in any case learn what is required for the exams, why not make it clear what the common goals of the teacher are and those being taught? The information content of the subjects should aim at future health needs, while the type of education should be student-oriented.

Defining the goals is the responsibility of the teachers, but the way in which the goals are to be attained is left up to the students. The crucial point is feedback from the students and graduates on the relevance and applicability of the skills and information aimed at in the particular course. Both topics and methods need to be changed in light of national health priorities and problem solving.

The structure of knowledge seems to be related directly to its longevity in the minds of the students. The superficial knowledge of vast amounts of facts acquired directly prior to an exam are easily and quickly forgotten, partly because they have not been understood and only memorized. A remedy for this could be the problem solving approach, which is likely to be more time consuming and require the selection of important topics, because things understood tend to be part of a person's own thoughts and ideas. Using concepts acquired in early courses is rare in clinical subjects and thus raises a stipulate of integration, the level of which is still not clear as the organ level seems insufficiently low in terms of the holistic approach to the patients. The transition of the intellectual environment between the basic medical and clinical subjects seems to be artificial and to result from not judging the relevance of these two main groups of sciences to the final outcome of medical education, i.e. in most instances general practitioner.

Reform in medical education is necessary, in general terms evident, centered on making students able to solve clinical problems. However, there is an inherent risk in drastic (revolutionary) changes, and the quality at stake is the physician's competence in treating patients. Fortunately, two types of medical schools now exist. There are the traditional ones and the problem-based and self-directed ones, which allow us to gather experience and to compare and use it for making changes. From a practical viewpoint it is advised that the traditional, discipline-oriented faculties introduce the problem oriented approach earlier and in greater quantity. It is important to preserve competence in clinically relevant areas of the basic medical sciences, such as molecular biology and biochemistry, which are indispensable for the correct solving of problems.

Our proposal is to give students the opportunity to take a scientific leave of a term or a year during their studies to pursue the desired problem (quite probably a scientific one). We know that students on their own add an extra load of this kind during their years of study. We advocate a change in attitude towards students who will use the proposed opportunity, regarding them as scientists willing to pay a price for postponing their graduation in order to contribute to medical knowledge.