The training of doctors today. Challenges and realities

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ABSTRACT:
Having closely monitored the need for doctors to adapt to new situations and address the changes under way in the health sector, faculties of medicine have begun to renew their curricula. The new curriculum and pedagogical innovations introduced have, nonetheless, instigated some resistance. Part of the solution to this problem may lie in the pedagogical training of the teachers to support them in their choice and use of a variety of flexible pedagogical approaches. As far as the teachers of faculties of medicine are concerned, the of the education departments as an instrument of support during this period of change has come to be broadly acknowledged.

This article reflects on this issue and is structured around three main conceptual strands: the need to provide future doctors with a type of training that will address the new challenges of modern society; the main concepts of current faculties of medicine curricula, particularly in Europe and America; the contribution of medical education departments (MED) to this renovation process within medical schools, based on our experience in the MED of the *Faculdade de Ciências Médicas da Universidade Nova de Lisboa* (FCM) and our work there.

KEY WORDS:
Education and Health, Pre-Graduate Medical Education, Curriculum Innovation, Medical Education Department.

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INTRODUCTION

This article is structured around three main conceptual strands. First of all we will address the need for doctors to adapt to new situations and confront the changes under way in the health sector. We will then go on to examine the main concepts of current curricula in faculties of medicine, particularly in Europe and America. Finally, we will mention the contribution of medical education departments (MED) to this renewal process within medical schools, based on our experience in the MED of the *Faculdade de Ciências Médicas da Universidade Nova de Lisboa* (FCM) and our work there (Rosado Pinto *et al.*, 2001).

THE NEED FOR UPDATED MEDICAL TRAINING

Today's society is now presenting current health care providers with greater and more diversified challenges. Indeed, the increase in average life expectancy, the subsequent growth within the oldest age group, the economic, social and demographic changes, the progressive urbanization of populations and their increasing awareness of their health rights, just to mention a few, require these professionals to be skilled workers in different fields with a variety of problems (Schwartz, 2001).

On the other hand, the emergence of new health problems related to environmental issues and the boom of new, social pathologies has given rise to a growing need for the articulation of several levels and models of health care provision. This implies that professionals working in the sector should be able to provide a variety of long-term solutions to the problem and also be in possession of a profound knowledge of the health system and its potentialities (WHO, 1998).

Therefore, and as far as the training of doctors is concerned, nowadays, medical training can not be conceived solely on the basis of exclusively biological concerns, without taking other issues into account, such as bioethics (McGaghie *et al.*, 2002) or the equation of public health fields with community health (Bligh, 2002). For example, in the case of emerging infectious diseases associated with high risk behaviour and situations (Kate, 2002), medical training now needs to prepare future doctors to be able not only to intervene in the area of the disease, but also to collaborate with a team (Patel *et al.*, 2000) in the promotion of health and education (Machado Caetano, 2001).

Furthermore, we are now confronted with a boom of new knowledge, stemming from the progressive scientific and technological advance in biomedical sciences, through which we have learned much more about disease and its mechanisms, thus, implying a continuous updating of medical course curricula (WFME, 1988, 2003).

Moreover, these changes have emerged at a time when, in addition to there being a greater demand on the part of populations for the quality of health

systems and new kinds of available treatment, we are confronted with much greater financial constraints, whereby the rationalization of expenses within health institutions can drastically reduce training opportunities (Alpert *et al.*, 2002). Furthermore, the natural and progressive differentiation of the main hospitals, as well as the increase in the provision of out-patient health care have withdrawn opportunities of being in contact and monitoring more prevalent pathologies from the hospitals traditionally affiliated with medical schools. This has given rise to the need for other kinds of partnerships which would be capable of making these new health care needs compatible with training (Jones *et al.*, 2001).

So, it is easy to understand that faculties of medicine are currently having to deal with this need to re-reflect upon their curricula, strategies, environments and training sites and to adapt their training courses so as to prepare students for these new realities.

Such circumstances are not new and have been part of other European education and health systems for much longer than their emergence in Portugal. In a text focusing on the situation in the United Kingdom, Towle (1992) stated that it was very hard to provide medical students with a sufficiently diversified type of training in the majority of British hospitals. He went on to mention how important it was to find other training environments, namely in the out-patient departments of these hospitals and through clinical practices in medical centres.

Indeed, the need for change in the United Kingdom had already been pointed out in a famous article by Harden (1986), from the University of Dundee, in which he defended the need for profound alterations in medicine course curricula, namely in the overall aims and teaching methods, content, organizational issues, regulations and even ways of attracting funding.

In the case of North America, a workshop was held in Vancouver, Canada, during the same year (1986) which gave rise to an important article based on this theme (Swanson *et al.*, 1986). In the article, the authors analyzed three types of curricula being used in the North American faculties of medicine: "discipline-orientated", "organ systems" and "problem-based learning":

The *discipline orientated curriculum* or, to use Sperb's characterization (1975, p. 80), a curriculum based on "isolated program materials", which, at the time, was considered to be the most common in North America, represented an organizational logic based on departments, through the separation of "core" and "clinical" subjects, the importance given to the scientific research of each department (which also determined progression in the career of teachers) and through the very relative weight given to the teaching activity itself, which was often carried out by teachers in the early stages of their career.

As for the "organ systems" curriculum, which was very similar to the curriculum entitled "curriculum based on teaching areas", referred to by Sperb (1975, p.81), it maintained a subject-based format and type of clinical practice which focused, primarily, on hospitals, leaving very little space for the training of students in other contexts, such as, for example, the out-patient department.

The main difference between these two types of curricula seems to lie in the philosophy behind training, in which a less biological and more bio-psycho-social orientation is defended.

Finally, the "problem-based learning" curriculum (PBL) was still rare in North American schools up to the date of the above-mentioned workshop. Based on their analysis of the curricula of these schools, the authors stress the importance given to clinical practice and its early introduction in the curriculum. As regards the educational aims, the greatest difference seemed to lie in the autonomy of students and their ability to construct their own learning experience by means of developing competencies in problem-solving and decision-making. Teaching was structured around clinical problems, specifically constructed for the effect, whereby their solution represented the essence of learning. Through these clinical situations, it was possible to address the same content at different stages of the curriculum, in a progressive knowledge spiral of the themes in question. According to the same authors, the assessment of students in a problem-based curriculum involved a wide variety of instruments and techniques, ranging from the traditional multiple choice tests, to essays, reports, short-answer tests following the analysis of clinical

cases and, obviously, the observation of their performance in real or simulated clinical situations.

The teachers, or "tutors", were expected to motivate the work of small groups and to supervise students' autonomous study as well as being responsible for their assessment and the entire pedagogical process. Teacher training was given particular attention in this field as well as in the area of curriculum development and assessment and included the contribution of educational specialists so that the teachers were able to fulfil their role proficiently.

Criticism of the so-called "traditional" curriculum had already emerged earlier in very well known documents among the faculties of medicine throughout the several countries. The article by Abrahamson (1978) may serve as an example which was published after twenty years of consultancy visits to North American schools, a clearly ironic text in which he attributed particular pathologies to the curricula of the schools he had visited. In this way, he identified nine curriculum "diseases": *Curriculumsclerosis*, characterized by an extreme "departmentalization" and the exacerbated defence of curricula territories; *Carcinoma of the curriculum*, characterized by the uncontrolled growth of a segment of the curriculum, in which there is no evidence of the disease during its initial stages; *Curriculumarthritis*, evident in the articulation difficulties among segments of the curriculum; *Curriculum disesthesia,* or *curriculum malaise,* which leads teachers and students to acknowledge something is wrong, without being able to identify its origin; *Iatrogenic curriculitis* (or *curriculosis*), "disease" resulting from constant changes in the curriculum, without any kind of reliable assessment or careful revision; *Curriculum hypertrophy* (or *curriculomegaly*), also referred to as the "ground covering complex" (Abrahamson, 1978, p. 955), found in curricula in which all the subjects try to include new discoveries or scientific work in the respective area without, however, removing any of the program content.

The last two identified "diseases" are *intercurrent curriculiti*s and *curriculum ossification*. The first is characterized by a gap between the aims of the curriculum and the needs of society. The second is revealed in schools displaying constant reservations towards change, which, according to the author, is an epidemic disease affecting a considerable number of schools.

Guilbert (1994, 1995), a well-reputed consultant in medical training from the University of Geneva and the World Health Organization, used the same tone in his two articles where pathologies were attributed not to the curricula, but to the teachers. Hence, two similar "diseases" were identified; one, given the name *couverturite* and attributed to the teachers of the so-called traditional schools, due to the fact that their only concern was to get through the entire program, the other, the *maladie des profondeurs*, which seemed to be displayed by the teachers of schools with PBL curricula, namely among the teachers "des sciences dites fondamentales" (Guilbert, 1995, p. 124) and which was manifested through the constant concern with the fact that the students were not acquiring sufficient in-depth knowledge of their subjects.

Regardless of the mocking tone displayed by these two articles, they put forward a strong criticism of the curricula being used for courses of medicine, as well as of the teachers who were more resistant to change.

Finally, in spite of some resistance, the inevitability of alterations being introduced into the curriculum of faculties of medicine was established and followed by a new issue related to the need for creating a consensus for the meaning of these alterations.

THE NEW CURRICULA

Changes on an international level

The afore-mentioned concerns were expressed on an international level through the documents of the "Association of American Medical Colleges" (AAMC, 1984, 1998) and the "World Federation for Medical Education" (WFME, 1988, 2003), as well as in the proceedings of the "World Summit on Medical Education — The Changing Medical Profession" (Walton, 1994). In the case of the United Kingdom, more specifically in the pre-graduate training of doctors, "General Medical Council" (GMC, 1993, 2003) recommendations were of utmost importance.

These recommendations have acted as a backdrop to a set of curriculum innovations currently

under way in many European, North American and Australian medical schools. The following are examples:

- A *reduction in the theoretical content* of the courses and a re-structuring around main themes connected to basic and clinical training, traditionally separated in courses of medicine (Towle, 1991).
- A *flexibilization of training programs* with a core curriculum including a variety of optional modules, thus, giving each student a varied type of training, based on his/her interests and motivation (Harden & Davis, 1995).
- *Curriculum constructed around clinical problems* (Barrows & Tamblyn, 1980), promoting a professionally-oriented type of training and learning based more on reasoning than memorization.
- Curriculum based on a philosophy of *integrating "core" and "clinical" subjects,* such as the case of the "spiral" curriculum (Davis & Harden, 2003) in which learning is progressive and sequential and is constructed on the basis of knowledge acquired during previous stages. Such knowledge derives from program content covered at different stages, with progressive levels of complexity, including contributions from the different departments, regardless of whether they belong to the core subjects (Anatomy, Physiology, Biochemistry, for instance) or clinical subjects (Paediatrics, Surgery, Medicine, for example).
- Reinforcement of the *public health component, including general and family medicine* throughout the course, with emphasis on community-orientated curricula, particularly out-patient clinical situations and the consequent shift from an exclusively hospital-based logic (Howe *et al.*, 2002).
- *Student contact with professional reality* from the initial years of the course onwards, as a means to ensure early acculturation and integration of theoretical and practical components, thus, implying agreements between faculties of medicine and different structures and health care provision scenarios (Lloyd Jones *et al.*, 1998).
- As far as education is concerned, the use of *pedagogical strategies to promote active learning* and to facilitate *the development of autonomy and life-long learning competencies,* based on the assumption that pre-graduation is the first stage of training which should be developed throughout the course of one's professional life. Furthermore, recommendations suggest that the teaching of clinical competencies should not be limited to the training of technical procedures but need to take the development of interactive skills into consideration, namely communication with the patient, family members and other health professionals (Sanson-Fisher & Poole, 1980).
- As far as learning resources are concerned, the *systemic use of information technologies* (Davis & Harden, 2001) and the *creation of new environments and training practices,* with the use of simulated situations, or the support of computers (Vogel & Wood, 2002), or simulated patients (Barrows, 1987). In this context, the laboratories for clinical and surgical training have proved to be excellent instruments for additional training with close contact with the patient (Bradley & Postlethwaite, 2004).
- Finally, another characteristic of the new curriculum is connected to the *creation of new* student *evaluation instruments* which are more in keeping with the new forms of learning and the need for the evaluation of transversal competencies, namely their written and oral presentation, as well as competencies in research, problem-solving and teamwork. Just to exemplify, this includes the use of portfolios (Driessen *et al.*, 2003), simulations (Adamo, 2003), written tests (with both short and long answers), based on short clinical histories, presented either on paper or through computer technologies (Newble & Cannon, 1983).

Change in a national context

In a national context, and as far as curriculum adaptation to the new needs are concerned, there have been institutional concerns, which are similar to those of other countries, conveyed through different reform committee reports from a variety of faculties, and which have tried to put recommendations from the *Comissão Interministerial para a Revisão do Ensino Médico* [Interministerial Committee for the Review of Medical Education] and

the *Grupo de Trabalho para a Revisão do Ensino Médico* [Work Group for the Review of Medical Education] into practice. This is referred to in the Work Group report which was at the root of Council of Ministers Resolution Nº140/98 and which proposes a "radical alteration in the medical *curriculum*":

> Given the need for integrating new concepts and new languages in medical education, the development of molecular biology, genetics and neurosciences, developmental biology and the development of information sciences have brought about new medical knowledge with important consequences. On the other hand, the medical practice has undergone considerable alterations in its traditional paradigms. Thus, nowadays, there is a confrontation between "evidence-based medicine" and individual, clinical, objective judgement, the cost of health care has shifted from being an insignificant factor to one of utmost importance, the emphasis of treatment has shifted from the bout of illness to the health of the population, management has been replaced by health management and the autonomy of doctors is now limited to scientific, professional and administrative interdependency. This new culture calls for a new educational approach (...) (AA.VV., 1994, p. 74).

It is important, at this point, to mention a text by Miller Guerra (1969), as, back in the 60s, it was already encouraging a change in faculties of medicine and the opening of new faculties, one in Lisbon, another in Oporto, which, indeed, came to pass. Based on the fact that university institutions do not reform themselves, Miller Guerra defended that it was necessary to implement new approaches and start from scratch. Curiously, some years later, the two "New" faculties (of which the FCM is an example) witnessed the creation of another two Faculties (in Minho and Beira Interior) based on exactly the same argument — the need to create something new, in a new location with other participants.

The arguments put forward by Miller did not differ very much from those presented by the afore-mentioned *Comissão Interministerial para a Revisão do Ensino Médico* and the *Grupo de Trabalho para a Revisão do Ensino Médico*, twenty years later. Indeed, the inadequacy of the future doctor's profile in the medical education of the 60s is pointed out and the introduction of more current components in the curriculum is recommended. At the root of all this is the rapidly out-dated knowledge (for instance, an increase in the supply of post graduate courses is suggested so as to ensure the constant updating of future medical graduates) and the changes which, in the meantime, had an impact on the Portuguese society (increase and ageing of the urban population, increasing importance of new pathologies, rise in the educational level of populations with the subsequent increase in health and quality of life demands). Furthermore, curriculum suitability is recommended for the four sides of contemporary medicine (health promotion, prevention, cure and rehabilitation) and for the development of science and research in areas of health such as, biology, genetics, biochemistry and medical technology.

Moreover, the text by Miller Guerra addresses central issues to the development of medical schools, which are still important today. For example, access to faculties of medicine and the *numerus clausus*, articulation between faculties of medicine and other institutions in the area of health and, within a balanced curriculum, the need for the mutual development of "core" and "clinical" subjects. Finally, the reference to research and teaching, whereby the author defends the urgency to create a research career within faculties of medicine, thus, creating a space in these institutions for professionals who are not necessarily doctors, without jeopardizing the research activity of teachers. In actual fact, medicine, as a scientific subject, can not be dissociated from research, but should give teachers the freedom to create different ways, of finding a harmonious balance between the spirit of research and developing the same curiosity in students, through teaching.

Therefore, huge efforts have been requested of Portuguese medical schools to gear their curricula towards more up-dated medicine, based not only on scientific grounds and technical training, but also on the attitudes of professionals in their relations with patients and their families, as well as in the interaction with other professionals and society at large.

As far as Portugal is concerned, the preoccupation with renewing and opening perspectives in

medical education has always been a central concern for teaching-doctors and has been the theme of several meetings. In this context, the *Sociedade Portuguesa de Educação Médica* (SPEM) [Portuguese Society of Medical Education] was established in 1967 (becoming active in 1971), as a site for joint reflection, presided by Professor José Pinto Correia.

The editorial of the first issue of *Cadernos de Educação Médica* [Medical Education Booklets] by SPEM announced the organization of six medical education congresses between 1982 and 1990, the year the journal "Medical Education" was launched, under the direction of Professor Joaquim Pinto Machado. Since then, another four medical education congresses have been held, with the participation of teachers and students from all the faculties of medicine.

With respect to the degree course curriculum, the faculties of medicine have been attentive to innovation concerns and have introduced more subjects and modules geared towards clinical practice (Fernandes & Fernandes, 1998) and experimented innovative pedagogical strategies, such as "learning through problems" (Rendas *et al*., 1993, 1997a, 1997b,1998,1999), using information technology in the teaching of different subjects (Garcia & Costa, 1991), reformulating the 6th year of the course and making it professionally- orientated (SPEM, 1998), updating "classical" curriculum content and even creating new, apparently more innovative curricula in the new medical schools in Beira Interior (Lopez de Macedo & Craveiro Sousa, 2003) and Minho (Pinto Machado, 2003).

So, a lot has been done by the faculties of medicine and the entire process fits into the current legislation framework. This is the case of the Council of Ministers Resolution No.140/98 which, acknowledging the need to increase the supply of quality in the area of health care, has adopted a set of measures including: the systemic monitorization of the implementation of two medical education units (in the Universities of Beira Interior and Minho), the monitorization of the re-structuring of the medicine degree course curriculum in the five faculties of medicine throughout the country (Faculties of Medicine of the Universities of Oporto, Coimbra and Lisbon, Institute of Biomedical Sciences Abel Salazar in Oporto and the Faculty of Medical Sciences of the *Universidade Nova,* Lisbon), the promotion of co-operation among the ministries involved, namely Science, Higher Education and Health, improved articulation between higher education institutions in the health sector and health care provision units (with a view to achieving articulation and the suitability of training to the realities of the National Health Service) and the nomination of a Monitoring Group in 1998, presided by Professor Alberto Amaral. Much of the reflection created has derived from the effort of this group, both in terms of its characterization of needs on a national level (national distribution of the needs of doctors, nurses and other health technicians) and its "Strategic Plan for Training in the Health Sector".

It is also in this sector that the faculties of medicine are subject to internal and external evaluations carried out both by national and international commissions. The following are examples: the evaluation of degree courses in Medicine and Dentistry, beginning in the academic year 1995-1996, following the Agreement among the Ministry of Education, the *Conselho de Reitores das Universidades Portuguesas* [Council of Deans of the Portuguese Universities] and the *Fundação das Universidades Portuguesas* [Portuguese University Foundation]; Evaluation, carried out by the *Grupo de Missão para a Saúde* [Health Mission Group] (from which recommendations mainly regarding curriculum have emerged) in 2000; evaluation carried out by the Conselho de Reitores da Europa [European Council of Deans] and within the context of the European University Association (EUA) in 2002, where the effort to implement change on the part of the faculties was acknowledged and recommendations were made in relation to their articulation with the health services; evaluation carried out by the *Conselho Nacional de Avaliação do Ensino Superior* (CNAVES [National Higher Education Evaluation Council]) in 2004, recommending greater emphasis on "research training", improvement of the pedagogical and evaluation processes, the integration of basic and clinical training, the reinforcement of multidisciplinarity, with permission being given to non-doctor candidates to take a PhD in the faculties of medicine, students' early contact with the health system, regular and systematised pedagogical training of teachers and the monitoring

of teaching, the implementation of a professional teaching system in clinical subjects, quality control and the promotion of a self-evaluation routine and, finally, the establishment of long-term institutional plans of action.

Out of the several faculties of medicine evaluations, the pedagogical training of teachers of medicine is a recurrent issue in the above-mentioned evaluation reports, regarded as a pressing need in the Portuguese faculties of medicine. Proof of this concern is conveyed through the existence of medical education departments or support structures for evaluation and curriculum development.

CHANGE IN MEDICAL SCHOOLS — CONDITIONS AND RESISTANCE

The development and accomplishment of a change have become unavoidable themes in medical education publications (Genn, 2001). It is worth mentioning here what the different medical teachers point out in relation to curriculum innovations found in medical schools where teaching activities are practised. As far as the conditions for change are concerned, in the medical school of Dundee, Harden (2000) identifies an awareness of the need for change. In texts on the process under way in Liverpool, Broomfield and Bligh (1997) highlight the importance of the involvement and implication of the different participants in the change process, as well as team work which fuels such involvement and encourages a sense of ownership.

As for adherence to the process of change and the implication of the different participants, Bowe *et al.* (2003) describe a program used in the training of Harvard teachers, in the "Macy Institute for Medical Education", which bases itself on the conviction that teachers only adhere to changes in their routines if, they are, beforehand, aware of the difficulties and causes of possible professional dissatisfaction. Indeed, Des Marchais *et al.* (1992), describing the experience of Sherbrooke in Canada, and Holmes and Kaufman (1994) the Faculty of Medicine in New Mexico, stress the importance of a frame of reference for change, based on the assumption that the actual desire for change is a basic requirement, but that knowledge and acceptance of the direction of change are essential to its accomplishment.

In articulation with the institution's vision, great importance is attributed to a clear definition of the type (or types) of doctor the institution wishes to train, as one determines the other, and the entire curriculum structure depends on these kinds of options (Snellen-Balendong, 1993). On the other hand, Mennin and Kaufman (1989) draw attention to another aspect that is connected to the need, on the part of the *change agents* (Grant and Gale 1989, p. 256), for profound knowledge of the institution in which such change will take place. This condition and knowledge of the institution's "culture" are also underlined by Prideaux (2004) in a study on four Australian medical schools which stresses that the organizational functioning of a school is the key to its effectiveness and, consequently, to the required changes.

Leadership within the institutions is another aspect considered essential for the promotion of alterations. Ramsden (1998) identified seven areas of leadership in the academic environment; leadership in research; leadership in management; leadership in vision and strategy; transformational and collaborative leadership; leadership in work with colleagues and staff; leadership in interpersonal relations. As far as medical schools are concerned, leadership is considered a key element for the accomplishment of any type of change (Davis & White, 2002). The authors are of the opinion that in addition to believing in the advantages change will bring, the director of the institution should adopt an active leadership characterized by running risks and setting an example. The personal characteristics of the leader are given particular emphasis, especially the ability to communicate with the institution, respectability and integrity, ability to form groups and invert the institution's departmentalization logic. Bryan (1994) identified a number of leadership styles in medical schools, ranging from the ability to argue, dynamism and tenacity to the ability to introduce effective changes in the institution.

Nevertheless, the processes of change are also confronted by a series of obstacles. Indeed, in relation to the faculties of medicine, the "Association of American Medical Colleges" identified five barriers to innovation in American medical schools; the

inertia of teaching staff, lack of leadership, lack of vision regarding curriculum programs, lack of funding and conviction towards the benefits of change (AAMC, 1992). In relation to the British institutions, Cohen *et al.* (1994) added the lack of incentive to provide encouragement to teachers by means of their teaching activity. Mennin and Kaufman (1989) went on to mention even more characteristics of the higher education institutions, namely the medical schools — resistance on the part of the departments (very closed in on themselves), the fact that many innovators were not opinion leaders in their institutions and , in some cases, the unrealistic expectation that change takes place over a short period of time. On the other hand, and as far as "pedagogical innovations" in British faculties of medicine are concerned, Bloom (1989) pointed to the scarcity of scientific evidence, resulting from the implementation of educational change.

Furthermore, within the context of innovation, Bussigel *et al.* (1988) underline the importance of articulated and sustained intervention and, on the basis of a study of the innovative processes in American schools, defend that the solution may be found in organizational issues and in the compatibility of the institution's different fields and objectives, namely the development of specific forms of articulation between the already existing structures and innovation requirements. So, the authors draw attention to the absolute need for each institution to find its own solutions from the contextual characteristics of each medical school. They also stress the importance of the time factor, pointing out that innovation remains vulnerable for a longer period of time than initially imagined. In relation to this subject, Des Marchais (1993, 2000) describes the process of the Faculty of Medicine of Sherbrooke and states the key-principals around which the seven years of curriculum change in this faculty have evolved — by focusing on the student and community orientation.

In addition to the contextual and organizational issues, other studies have drawn attention to another obstacle, namely individual resistance, confronting the process of change in medical schools, which is frequently based on the fear of loss and lack of faith in the advantages the actual change will bring (Kotter & Schlesinger, 1979).

Finally, there is a text on resistance to change in British medical schools where Towle (1998) refers to a study carried out in the United Kingdom in 1995, following the attribution of a budget to the faculties of medicine wishing to implement the recommendations of *Tomorrow's Doctors* (GMC, 1993). Through this study (based on answers from 25 of the 26 schools involved, namely the "facilitators" of change in each school) the same causes emerged for the difficulties being experienced as those identified by the study of the AAMC (1992), with the added constraints of the British National Health System which was in the process of re-organization when the questionnaire was applied. However, this British study also suggests that there is an underlying main cause, which is mentioned twice as often as the second factor (the inertia of teachers), and refers to the fragile status of teaching at British faculties of medicine. It goes on to emphasise the importance the pedagogical training of teachers of medicine acquires in this context.

The existence of structures, in higher education institutions, specifically geared towards this role and in possession of specialized staff, referred to by Kogan (2001) as "teaching development centres", seems to be a possible solution for accomplishing the pedagogical training of teachers. We will now go on to consider the departments of medical education, as a way of addressing this need.

THE ROLE OF MEDICAL EDUCATION DEPARTMENTS (MED)

The existence of a department of medical education within a faculty of medicine is fairly recent in Portugal, but quite traditional in other European countries, particularly the United Kingdom. In one of our studies, carried out between 2003 and 2006, we analyzed eleven British MEDs (through contact established with thirty faculties of medicine on the official list of the United Kingdom, we received fourteen replies, three of which informed us that the respective education departments were undergoing a process of re-structuring and could not, therefore, be approached). We tried to ascertain the importance of an education department within a faculty of medicine and to characterize the

type of response attributed to this structure. It was also the aim to understand the role adopted by the departments of the respective faculties, their aims and activities.

The analysis of the collected answers served as a frame of reference for the characterization of the MED of the Faculty of Medical Sciences.

Overall, it is possible to conclude that:

The British MEDs are strongly established in the respective faculties of medicine and bring together professionals from a number of different areas, namely from medical and education sciences (psychology, teacher training, curriculum development, assessment). The option to bring together the faculties of medicine and professionals or other fields of knowledge, particularly education sciences, seems to indicate acknowledgement that there are specific competencies and knowledge that these sciences can bring to an institution of higher education, in this case faculties of medicine.

The departments had different origins but seem to have emerged in an attempt to address a specific need. In the British case, and also in the FCM, the need was triggered by strictly contextual demands (related to the health system) and the need to change the curriculum of medicine degree courses. As far as the FCM is concerned, there are also other facilitating conditions, such as:

- The existence of institutional evaluations which are in progress and lead to self-reflection on the faculty and its way of functioning;
- Approximation to the "Bologna Process", opening the faculty to other European institutions with subsequent requests for curriculum equivalence;
- Training program difficulties in hospitals and the need to find creative pedagogical solutions;
- The existence of some teacher training activities in the FCM, (despite being unarticulated and "random") and European recommendations for the creation of education departments in the faculties of medicine.

The roles of the departments of medical education are varied and closely connected to the culture of the institution on the one hand, and the philosophy and training aims on the other. As far as the action levels of the British MED are concerned, most of them are transversal structures, called upon to collaborate or even co-ordinate curriculum commissions (planning, monitoring and curriculum assessment) and are responsible for the pedagogical training of teachers and assessment of the institution. In the case of the Faculty of Medical Sciences, the MED does not have such an autonomous role as its British counterparts, but the investment is, above all, in partnerships with the institution's various departments. In terms of the departments' direct action, we examined the roles carried out by the MED. The following is a summary of what teachers considered to be of greater importance:

- Monitoring the practice of teaching and timely feedback on the part of the teachers;
- Teacher training for the teachers, carried out in a professional situation and based on the specific problems experienced by the teachers themselves;
- Creation of support materials and bibliographical support within the educational context;
- Collaboration in the assessment of teaching;
- Creation of transversal sites for the analysis and discussion of pedagogical issues and subsequent construction of institutional "networks".

As far as human resources are concerned, and once again on the basis of our analysis of medical education department responses from the United Kingdom, the importance of an "educationalist" and support on the part of computer technicians or other technical staff members connected to the production of pedagogical materials are mentioned.

THE PROFILE OF PROFESSIONALS IN THE FIELD OF EDUCATION WORKING IN THE MED

Simpson and Bland (2002) define the role of an education specialist (referred to as "educationalist") working in a faculty of medicine as "one who studies the education process and prepares others to become teachers — by teaching the medical school faculty about the science of education" (p. 223) and they mention the three areas of intervention —

application of educational principles to teaching practices, a scientific approach to assessment and teacher training.

As far as the characteristics of this "educationalist" are concerned, the authors stress that the person in question should be an "outsider", in other words, he/she should try to help the teachers of medicine to achieve their aims and use their "outsider's" vision to influence them in their decisions as well as doing research to support the advice being given. Furthermore, these authors state that the educationalist can not change the curriculum alone, since this is the responsibility of the teachers. However, he/she should fulfil the role of consultant and constructor of collaboration networks. This may be achieved by working in partnership with the teachers of medicine and doing research in order to support the positions adopted and to earn credibility within the institution. Moreover, he/she should act as an example in pedagogical training, using the training courses to show his/her competency in the field. On the other hand, besides being competent in the area of teaching, one of the requirements for acceptance of this professional in a faculty of medicine seems to lie in his/her academic differentiation within the field of education (Hitchcock, 2002).

In the case of the FCM, the most valued features of the education sciences professional, working in a faculty of medicine, were not so different from those referred to in the above-mentioned article. Differentiation and subsequent credibility in the pedagogical field were emphasised, as well as the use of the proposals created to solve specific pedagogical problems, the outsider's approach to medical culture articulated, however, in such a way as to adapt to the style of the teacher of medicine's sphere of actions.

To sum up, the educational professionals are expected to develop flexible and adaptable professional identity modalities (Astolfi, 2003), and the educational consultant "consultant aux savoirs incertains" (Mougel, 2003, p. 273), is required to be capable of conciliating two tendencies: telling the truth, on the strength of his/her convictions and the search for feasible solutions to the problems he/she is confronted with. According to Mougel (2003), the attitude of this consultant will imply resorting to a range of professional behaviour types which can be summed up in the following points: listening to the "client"; consideration of the request (choice of questioning process, identification of the problem, development of an issue, raising of hypotheses, research clues); negotiation of the "contract specifications" (what to do); research (study of the problem in partnership with the teachers from the department under analysis); diagnosis (after processing collected data); prognosis (a report on the way of solving the problem); suggestion regarding evaluation mechanisms and ways of maintaining quality in solution implementation); respect for the values and priorities of the "client" (pp. 287-288).

Therefore, a consultant is someone who can bring together competency and credibility with openness and flexibility in problem solving and respect for a culture which is not his/her own. Once again, according to Mougel (2003), it is precisely the involvement of the educational consultant in the solving of specific problems which will help him/her to leave behind a discourse of absolute truth which is unsuitable for the current reality of institutions.

FINAL NOTE

Nowadays, it is clear that doctors need to adapt themselves to new situations and address the changes in the area of health. Being aware of this need, the faculties of medicine have begun to alter their curricula, in an attempt to make the training of future doctors more geared towards these new realities. Curriculum and pedagogical realities have raised some difficulties and resistance on the part of teaching staff. Part of the solution to this problem may be found in a pedagogical and professional type of training for the teachers so that they may be supported in their choice and use of a wide range of flexible pedagogical responses (Kogan, 2001).

As far as the teachers in faculties of medicine are concerned, the role of the departments of education, as an instrument to support change and institutional development policy, has been broadly stressed. These change practices must be analyzed and systematized so that they become the object of research, since the renewal of higher education institutions, based on credible data stemming from objective and systematized knowledge is of utmost importance.

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