

Committee for the Evaluation of Medical Schools In Israel

Technion – Israel Institute of Technology

The Ruth and Bruce Rappaport Faculty of Medicine

Evaluation Report

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<u>Chapter 3- Evaluation of the Technion - Israel Institute of Technology, the Ruth</u> and Bruce Rappaport Faculty of Medicine

The evaluation is based on the information and the data provided in the self-evaluation report, the committee's visit to the institution and the general impressions of the committee.

3.1. Background

The Technion Israel Institute of Technology (Technion) is a publicly funded university with approximately 13,000 students. The Rappaport Faculty of Medicine is one of the Technion 15 faculties, and was established in Haifa in 1969.

The 6 years MD study program is divided into 3 years pre-clinical studies and 3 years clinical studies. During the first year of studies, the MD students take courses at the Technion campus in Nave-Shaanan and in the campus of the faculty of medicine in Bat Galim. The second and third years and the first semester of the fourth year are studied in the Rappaport Building of the faculty of medicine in Bat-Galim. The second semester of the fourth year and years 5 and 6 are the clinical years, and the students study in the clinical departments of the different affiliated hospital.

In addition to the 510 students studying for the MD degree there are 110 students in the masters program and 120 in the PhD program. There are 30 students in the MD/PhD program.

Additionally, the Technion American Medical Students (TEAMS) Program offers an opportunity for qualified U.S. or Canadian pre-med college graduates, to pursue a career as physicians, for the M.D. degree in the Ruth & Bruce Rappaport Faculty of Medicine of the Technion-Israel Institute of Technology in Haifa, Israel.

3.2. General Observations

- The Committee congratulates the adoption of changes in the syllabi, in particular in the area of "professionalism, and the spirit of renewal and dynamism.
- The Committee commends the openness shown by the Dean towards students, an attitude most appreciated by the students, and hopes that his attitude will be implemented also at lower levels of the institution's management.

3.3. Admissions

 The committee heard with much interest about changes in the system of admission of medical students. In addition to the results of the high school grades and the psychometric exam, the school has joined the program at the national simulation center where the applicants' non-cognitive traits are evaluated. In cases of doubt and special cases, personal interviews are used as well. Evaluation is planned of the new system for student admissions. The committee welcomes the use of evaluation of non-cognitive character traits and the significant weighting of the personality-behavioral aspect in the admission decision. Tools for evaluation of the new admission system should be developed in order to establish its influence on the character of the Medical School graduate over time.

There is also a track for admission of students who have had prior academic training and now desire to switch to a career in medicine. In addition, the school accepts a significant number of transfer students from foreign medical schools into the fourth year after an extensive screening process.

3.4. Study Program

• The Faculty is intensively involved in developing, integrating and updating the syllabus, particularly in the area of "professionalism". This effort is commendable and must continue. To this end, a simplification of bureaucratic procedures, which today are extremely complicated, is required. The Medical faculty finds itself constrained bureaucratically by the Technion, where there is not always awareness and recognition of the needs for change required to update the syllabus to match modern medicine. The rapid changes in medicine often necessitate corresponding changes in direction of the medical curriculum, and there should be enough confidence in the leadership of the medical faculty to permit them to make the requisite changes without too many constraints.

An example of this is the conservatism of the Technion regarding the teaching of the exact sciences, which is not always suited to the needs of medical students. Over the past few years, there has been some decrease in the amount of hours devoted to the exact sciences, and attempts to concentrate on areas of greater relevance to medicine. Nevertheless from most of the feedback that the committee received it would seem that more needs to be done in this regard. It is possible to teach Physics and Chemistry through topics that are relevant to Biochemistry, Biology and Medicine. In Mathematics too, it is possible to deal more with biostatistics in place of topics, which are less relevant to students of Medicine.

- The very condensed integrative curriculum, presently taught in the fourth year, is an important part of the curriculum, bridging the preclinical and clinical years. It should be examined critically to see whether all of it should continue to be delivered by frontal lectures, and to what degree some variety in its form should be introduced. An effort should be made to have it moved to the third year. This will make it possible to expand the fourth year clinical studies, and for example include a pediatric clerkship as is customary in the other medical schools in Israel.
- The impression we received from both staff and students that the level of clinical teaching, in general is quite good. However, there needs to be closer supervision of the quality of clinical teaching, since, by necessity it takes place in many departments scattered all over the North of the country. There is a great diversity between the departments and their academic abilities. The students in all departments should be exposed to joint seminars, by means of "video conferences" and remote learning. The committee recommends considering the adoption of the procedures for standardizing clinical teaching developed at Tel-Aviv. The clinical departments there have established standards committees, comprising senior colleagues, who visit the students in the departments towards the middle of the clerkship period. Their comments make it possible to correct whatever needs correction immediately, and these visits contribute to the uniformity of teaching.
- The changes in the curriculum of the sixth year whereby the students function as sub-interns has in the eyes of the staff been very successful and has better prepared the graduates for clinical medicine. The importance of close supervision of the students in their sub-intern function is critical.
- Courses in scientific reading and writing should be developed. The timing and
 nature of the courses in biostatistics should be reevaluated, and the course may
 need expansion. All of this could be in conjunction with some expansion of
 problem-based learning, so that the material is relevant.
- There is universal recognition that there is a critical need for moving a significant part of clinical teaching into the ambulatory sector. Unfortunately, except for family medicine there is little teaching in the ambulatory sector. Ambulatory studies in the community should be developed in areas such as Pediatrics, Gynecology, and Orthopedics.

- Behavioral science teaching the committee notes with favor the expansion of teaching of "professionalism", physician-patient relations, communication skills, clinical psychology. This entire new venture needs careful evaluation.
- "Physician assistant" program this program for students in the fifth and sixth
 years has been successful here as it has been in the other Israeli schools.
 Unfortunately, the number has been limited by budgetary and administrative
 constraints to between 15-20 students. It is recommended that efforts be made
 to expand the program where possible.
- Number of teaching staff there is a serious shortage of teaching staff, and the
 increasing demands on the staff because of needs for teaching in small groups,
 teaching in the ambulatory sector, the demands for increasing the number of
 students are creating a serious problem. In addition, a large number of teachers
 do not even have an academic appointment.

3.5. Research

- As in the previous report of the Committee, we note that the connection to the
 Technion should be used more significantly for joint research. The resources
 and skills in the various departments at the main campus of the Technion
 should be better utilized.
- Unfortunately, the committee did not receive details concerning the Rappaport
 Institute and its interaction with the Medical faculty. The administrative
 connections between the Institute and the Faculty were not presented at all. It
 would seem that the students would also gain considerably from a connection
 with the Rappaport Institute.
- In view of the importance of research, it is essential to increase the number of students who involve themselves in research. This can be done by:
 - (1) Awarding academic credit and recognition to the "research assistant" programme as an elective.
 - (2) Lowering the grade average required for admission to the MD/PhD program-some of the potentially best researchers may not have outstanding grades in the kind of testing system currently used in the usual course.
 - (3) Increasing the number of scholarships for teaching assistants, who are the researchers of the future. The levels of the current stipends make it difficult for students with families to support themselves adequately

(4) Making the Faculty laboratories also accessible to staff from institutions outside of Rambam and Haifa.

3.6. Exams

- Copying on exams: This matter, which the committee find extremely serious,
 was raised by the students. Over and above the ethical damage, this sends a
 message directly opposed to education towards professionalism! Honesty and
 personal integrity are the major ingredients in the education of students! The
 tendency to ignore or give only insignificant punishment to those who are
 caught must be uprooted.
- In the name of both transparency and education, the examinations and explanation of the correct answers should be published once they have taken place.

Chapter 4: Summary and Recommendations

The major problem, which in the committee's view threatens the quality of teaching in the Faculty (but also the research because of the teaching burden), is the ratio of number of staff members to number of students, which continues to decrease. There is still a heavy burden on the 46 preclinical staff members, some of whom teach several parallel courses, and on the small clinical staff (in particular in the hospitals peripheral to Rambam), who teach without proper clinical appointments, without recognition and without remuneration. This problem is going to worsen with the increase in the number of Israeli students. Will the departments be able to teach such large groups with a staff that satisfies the needs?

A possible solution that might be an immediate increase in the number of preclinical and clinical positions, locating suitable personnel and simplification of appointment and promotion procedures. Academic positions can and should be divided, even into four parts, as is the case in the other medical schools in Israel. We note with satisfaction that this has finally been done in a small number of cases, and we urge that this step be expanded. But in addition the absolute number of teachers must be increased. This will require an increased budget. Likewise, the tutors in the clinical departments, who play a major role in the education of the students, should receive compensation. This can be in the form of academic status equal to that of an instructor, or, alternatively, in the form of remuneration. One cannot continue to depend on pure voluntarism

- A thorough, periodical and ongoing investigation should be carried out with regard to the quantity, quality and relevance of the Mathematics, Chemistry and Physics courses, which according to almost all of the students (even a high proportion of those who study towards the MD/PhD degree), do not contribute sufficiently to the main purpose of their studies.
- To ease the economic burden on the students and to improve their professional education, the physician assistant program on the wards and in the emergency rooms duty rosters should be encouraged and allocated additional funds.
- A guiding hand is needed for the entire pre-clinical teaching. It is likely that it
 may be possible to bring the clinical studies further forward in the fourth year
 and to introduce more integration into the pre-clinical courses (both between
 the courses and between the courses and the clinical topics). An investigation

- of the issue of systems teaching, which is already applied in two faculties in Israel, is also recommended.
- The committee strongly recommends increasing the number of students who involve themselves in research.

Signed By:

Prof. Irun Cohen Chairperson

D. Ben Johnson

Prof. Dina Ben-Yehuda

Prof. Howard Chaim Cedar

Prof. Menahem Fainaru

Prof. Shimon Glick

Prof. Howard L. Weiner

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Appendix 1

Terms of Reference of the Committee



Minister of Education Culture and Sports

November 7, 2005

To:

Professor Irun R. Cohen - Department of Immunology, Weizmann Institute of

Science

Professor Dina Ben-Yehuda - Chairperson of the Hematology Department,

Haddasah University Hospital, Faculty of Medicine,

The Hebrew University of Jerusalem

Professor Chaim Bitterman - Chairman of Medicine, Carmel Medicine Center,

Faculty of Medicine, Technion - Israeli Institute of

Technology, Haifa

Professor Chaim Cedar - Faculty of Medicine, The Hebrew University of

Jerusalem

Professor Menahem Fainaru –

Professor Shimon Glick -

Sakler Faculty of Medicine, Tel-Aviv University

The Joyce and Irving Goldman Medical School,

Ben-Gurion University of the Negev

Professor Howard L. Weiner -

Harvard Medical School, Harvard University,

Boston Massachusetts, U.S.A

Esteemed Professors.

I hereby appoint you as members of the Council for Higher Education's (CHE) Committee for the Evaluation of Medicine Study-programs (that have already received authorization) within institutions of higher education in Israel.

You are kindly requested to operate in accordance with the Appendix to the Terms of Reference of Evaluation Committees (study-programs), which is attached to this Terms of Reference document.

The Committee is requested within the framework of its activity to:

- 1. Examine the self-evaluation reports which shall be submitted by the institutions that provide study-programs in Medicine and hold on-site visits to those institutions.
- 2. Present the CHE- by January 2007 with final reports regarding the evaluated academic units and study-programs- a separate report for each institution including the Committee's findings and recommendations, together with the institutions' responses to the reports.

Within the framework of the final reports, the Committee is requested to refer to the following topics, among others, in relation to each of the study-programs:

1. The goals and aims of the evaluated academic unit and study-programs.

- 2. The study-program and its standard.
- 3. The academic staff.
- 4. The students.
- 5. The organizational structure both academic and administrative of the academic unit and study-program.
- 6. The broad organizational structure (school/faculty) in which the academic unit and the study-program operate.
- 7. Physical and administrative infrastructure available to the study-program.
- 8. Internal mechanisms for quality assessment
- 9. Conclusions of the academic unit and the study-program.
- 10. Other topics to be decided upon by the Evaluation Committee.

In addition to its final report concerning each study program under examination, the committee shall submit to the CHE the following documents:

- 1. A report regarding its opinion as to the examined field of study within the Israeli system of higher education.
- 2. A proposal of standards for studies in Medicine.

Professor Iron R. Cohen shall preside over the Committee as Chairman. Ms. Alisa Elon shall coordinate the Committee's activities.

Yours sincerely,

Limor Livnat

Minister of Education, Culture and Sport Chairperson of The Council for Higher Education

cc: Mr. Naftali Weitman, Secretary of The Council for Higher Education Ms. Alisa Elon, Committee Coordinator

Enclosure

Appendix to the Terms of Reference of Evaluation Committees (study-programs).

Appendix to the Terms of Reference of Evaluation Committees (Study-Programs)

1. General

On June 3, 2003 the Council for Higher Education (CHE) decided to establish a system for quality assessment and assurance in Israeli higher education. Within this framework, study-programs are to be evaluated once in six years and institutions once in eight years. The quality assessment system came into effect in the academic year of 2004-2005.

The objectives of the quality assessment activity are:

- To enhance the quality of higher education in Israel;
- To create an awareness within institutions of higher education in Israel of the importance of this subject and to develop internal mechanisms for the evaluation of academic quality on a regular basis;
- To provide the public with information regarding the quality of study programs in institutions of higher education throughout Israel;
- To ensure the continued integration of the Israeli system of higher education in the international academic arena.

It is not the CHE's intention to rank the institutions of higher education according to the results of the quality assessment activity. The evaluation committee is requested not to make comparisons between the institutions.

2. The Evaluation Committee

- 2.1 The CHE shall appoint a Committee to carry out quality assessment of the study-programs.
- 2.2 A senior academic figure in the examined field shall be appointed as Chairman.
- 2.3 The Committee shall include 3 to 5 senior academic figures in the field from leading institutions in Israel and abroad. In exceptional cases, and in cooperation with the committee chairman, an authoritative figure who is not on the academic staff of an institution of higher education may be appointed as a committee member.
- 2.4 In the event that a member of the committee is also a faculty member in an institution being evaluated, he will not take part in discussions regarding that institution.

3. The work of the Evaluation Committee

- 3.1 The Committee shall hold meetings, as needed, before visiting the institution, in order to evaluate the material received.
- 3.2 The committee shall visit the institution and the academic unit being evaluated within 3-4 months of receiving the self-evaluation report. The purpose of the visit is to verify and update the information submitted in the self-study report, clarify matters where necessary, inspect the educational environment and facilities first hand, etc. During the visit the committee will meet with the heads of the

- institution, faculty members, students, the administrative staff, and any other persons it considers necessary.
- 3.3 In a meeting at the beginning of the visit, the committee will meet with the heads of the institution (president/rector, dean), the head of the academic unit and the study-programs, in order to explain the purpose of the visit. At the end of the visit, the committee will summarize its findings, and formulate its recommendations.
- 3.4 The duration of the visits will be coordinated with the Chairman of the Committee according to the issue, and in any event will not be less than one day.
- 3.5 Following the visit, the committee will write its final report, including its recommendations, which will be delivered to the institution and the academic unit for their response. The institution's and the academic unit's response will not result in changes to the content of the Committee's report, unless they point out errors in the data or typographical errors in the Committee's report. In such cases, the committee will be able to make the required corrections in its final report.

4. The Evaluation Committee's Report

- 4.1 The final report of the evaluation committee shall address every institution separately.
- 4.2 The final report shall include recommendations on the subjects listed in the guidelines for self-evaluation, and in accordance with the Committee's Terms of Reference.
- 4.3 The recommendations can be classed as one of the five following alternatives:
 - 4.3.1 Congratulatory remarks and minimal changes recommended, if any.
 - 4.3.2 Desirable changes recommended at the institution's convenience and follow-up in the next cycle of evaluation.
 - 4.3.3 Important/needed changes requested for ensuring appropriate academic quality within a reasonable time, in coordination with the institution (1-3 years).
 - 4.3.4 Essential and urgent changes required, on which continued authorization will be contingent (immediately or up to one year).
 - 4.3.5 A combination of any of the above.
- 4.4 The committee's report shall include the following:
 - 4.4.1 Part A General background and an executive summary:
 - 4.4.1.1 General background concerning the evaluation process, the names of the members of the committee, a general description of the institution and the academic unit being assessed, and the committee's work.
 - 4.4.1.2 An executive summary which will include a description of the strengths and weaknesses of the academic unit and program being evaluated, according to the subjects listed in the body of the report and a list of recommendations for action.
 - 4.4.2 Part B In depth description of subjects examined:
 - 4.4.2.1 This part will be composed according to the topics examined by the evaluation committee, in accordance with the committee's Terms of Reference and the report submitted by the institution, and at the discretion of the committee.
 - 4.4.2.2 For each topic examined the report will present a summary of the findings, the relevant information and an analysis thereof, and conclusions and recommended actions.
 - 4.4.3 Part C Summary and recommendations:

4.4.3.1 A short summary of every one of the topics described in detail in Part B, including the committee's recommendations.

4.4.3.2 Comprehensive conclusion/s and recommendation/s regarding the evaluated academic unit and the study-programs.

4.4.4 Part D- Appendices:

The appendices shall contain the committee's Terms of Reference, relevant information about the institution and the evaluated academic unit, the schedule of the on-site visit.

4.5 The final report will be delivered to the institution, with the deadline for its and

the academic unit's response noted.

4.6 The Committee's final report together with the response of the institution and the academic unit will be brought before the CHE.

4.7 The CHE will discuss these documents and formulate its decisions within (approximately) a year from the time the guidelines for self-evaluation were sent to the institutions.

Appendix 2

The schedule of the visit

Site visit to The Technion - Israel Institute of Technology

Committee for the Evaluation of Medical Schools November 15-16, 2006

First day: Faculty of Medicine, 14th floor, Dean's Office

• The meetings will take place at the Medical School

Time	Subject	Participants
09:00-9:30	Closed meeting	Committee members
9:30-10:00	Opening session	Heads of the institution (Vice President,
	Prof. Y. Apeloig, President	etc.)
	Prof. A.Rosen, Senior Vice President	
	Prof. M. Sheintuch, Deputy Senior Vice President	The senior staff member appointed to
	Prof. A. Pinkus, Dean of Undergraduate Studies	deal with quality assessment in the
	Prof. M. Shpitalni, Dean of Graduate School	institution
	Prof. I. Perlman, Dean	
	Prof. E. Shalev, Senior Deputy Dean	The heads of the academic unit (Dean of
	Prof. H. Pratt, Deputy Dean for Research &	the Faculty of Medicine, etc)
	Academic Development	
	Prof. R. Brik, Deputy Dean for Academic	
	Programs	
	Ms. Z. Laniado, Administrative Executive	
10:00-11:00	School's academic and administrative leadership	
	Prof. I. Perlman,	
	Prof. E. Shalev, Prof. H. Pratt, Prof. R. Brik	
	Ms. Z. Laniado	
·	Prof. G. Spira,	
	Prof. A Salzberg	
	Prof. H. Hammerman	
11:00-11:45	Committees involved in pre-clinical education	5 representatives including the Chairman
	Prof. G. Spira- Chairman of the Committee	of the Committee.
	Prof. D. Kornitzer	
	Dr. J. Schiller	
	Dr. Z. Abassi	
	Dr. S. Ankri	

11:45-13:15	Lunch - with Students	2 students from each year, which are the
	Enat Fireman, Second Year	representatives of the student council ¹ .
	Matan Hemmeley, Third Year	
	Netta Patrazil, Third Year	
	Ido Stahl, Fourth Year	
	Yonatan Orel, Fifth Year	
	Amos Levy, Fifth Year	
	Noa Segal, Sixth Year	
	Daniela Ma-Tov, Sixth Year	
13:15-14:00	Committees involved in clinical education	5 representatives including the Chairman
	Prof. H. Hammerman- Chairman of the	of the Committee
	Committee	
	Prof. R. Brik	
	Prof. H.Sternberg	
	Dr. I.Kremer	
	Dr. S. Reiss. Chairman of Medical Education	
	Prof. A. Oliven	
	Prof. N. Karin, previous Chairman of Teaching	
	Evaluation Committee	
14:00-14:30	Admission of Students	The Chairman of the Admission
	Dr. G. Bar-Yosef	Committee and 2 committee members
	Dr. L. Metz, Dr. D. Rabinovitz	
14:30-15:30	Senior academic staff	5 representatives
	Prof. A. Etzioni, Prof. J. Winaver, Prof. J. Finberg,	
	Prof. J. Borenstein,	
	Prof. E. Sprecher	
15:30-16:15	Junior academic staff and Teaching assistants	
	Dr. T. Ben-Yosef, Dr. Zahir Azzam, Dr. Y.	5 representatives
	Gutfreund, Dr. D. Magen, Dr. A.Orian	
16:15-16:45	Closed meeting	Committee members

Second day

• The meetings will take place at the Rambam Medical Center, Haifa.

Between 09:00-10:15

Between 10:15-15:00 the meetings will take place at the Faculty of Medicine

14th floor, Dean's Office

Time	Subject	Participants
09:00-10:15	Clinical Teaching	Hospital management or hospital representative
		from the following hospitals:
	Prof. S. Reisner-Prof. A. Etzioni	Rambam Medical Center
	Acting Directors of Rambam	
	Dr. M. Flugelman,	Carmel Medical Center
	Dr. A. Rofe- Prof. O. Nativ	The Bnai-Zion Medical center
	Dr. A. Koren, Chairman, Division of	
	Pediatrics	Clinical Teaching Coordinator ²
	Prof. E. Sternberg, Chairman, Division	
	of Surgery	
10:15-11:15	Services for supporting teaching	
	Prof. G. Pillar- Acting Head of Library	Head of the Medical Sciences Library & chairman
	Committee	of the library committee
	Ms. M. Cohen, Director of Medical	
	Library	Computing committee chairman
	Prof. N. Ziv	Head of the animals house & animal facility
	Prof. N. Karin	committee chairman
•	Dr. R. Shofti	
11:15-12:15	Research	
	Prof. T. Kleinberger	Research committee - chairman or its representative
	Prof. S. Marom	The head of the MD\PhD program
	Dr. Y. Srugo-Acting head	The head of the final thesis program.
12:15-13:15	Lunch	Committee members with the MD\PhD students
	Mr. M. Yakir, Mr. L. Balan	
	Mr. E. Segal, Mr. Y. Foner	
	Mr. Y. Katzir, Mr. E. Avraham	

[.] מרכז הוראת. פקולטה שאין לה מרכז הוראה תשלח את ראשי החוגים הקליניים : פנימי, כירורגית, ילדים. $^{2}\,$

13:15-13:45	Closed meeting	Committee members
13:45-14: 15	Summation Meeting	The heads of the academic unit (Dean of the Faculty
	Prof. A. Rosen, Senior Vice President	of Medicine, etc)
	Prof. I. Perlman, Dean of Medicine	
	Prof. E. Shalev, Senior Deputy Dean	
	Prof. J. Rowe, Appointments, Deputy	
	Dean for Clinicians	
	Prof. R. Brik, Deputy Dean for	
	Academic Programs	
	Prof. H. Pratt, Deputy Dean for	
	Research & Development	
	Ms. Z. Laniado, Administrative	
	Executive	
14:15-15:00	Closed meeting	Committee members

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