Response on General Report by the Committee for the Evaluation of Mathematics Study Programs

Introduction

¶1 It was gratifying to read that the Committee recognizes the high standard of mathematics in Israel and its standing vis-à-vis mathematics worldwide.

¶2 There are several matters which could be improved in the mathematics departments.

¶3 I agree that the way mathematics has developed in Israel since its early beginnings in Hebrew University's Institute of Mathematics in 1929, has resulted in highly commendable achievements indeed praiseworthy. As the Commitee wrote, mathematics in Israel has developed naturally, it did not set itself unreasonable targets and did not delve into areas which did not develop naturally.

The undergraduate program

¶1 I was not among those who complained about the level of first year undergraduate students, or about the higher drop-out and exam failure rates than seen in former years. Although I have heard about it from my colleagues in other universities, it does not seem to be the case at the School of Mathematical Sciences at Tel Aviv University; or perhaps it is just less serious here than elsewhere. So I do not see any need to lower the level of introductory courses, or, as the Committee wrote, to adjust the basic curriculum "to account for the level of the entering students"

¶2 I also have heard of the plan to add a perparatory year to the three years of study for a BA in mathematics, but I do not quite understand the reasoning of those who advocate this additional year. Clearly, the first year of a four-year course could be used for that purpose, but, as the Committee writes, adding another year to BA studies would convince many potential students to turn to other areas of study.

¶3 Of course, it is essential to mark the exercises which the students submit, especially in the first year.

¶4 I do not see it as a problem that students from other faculties also study mathematics. I do not think that the relatively large numbers of students from outside the School causes any special problem.

The graduate program

¶1 The major problem with regard to small MA and Doctoral classes is an economic one. The smaller the class the higher the teaching cost per student. The University's previous president tried to eliminate small classes. Of course, had he succeeded, that would have been the end of graduate teaching altogether.

¶2 The Committee's suggestion to merge classes from neighboring institutions could be promising. It would solve the problem mentioned above. But, as with all new ideas, the problem will be in implementing it. It takes almost an hour to get from Tel Aviv University to Bar Ilan University by public transport, and driving there oneself is exhausting. Despite this, I think advanced courses at other institutions should be recognized in Masters programs.

¶3 In my experience, when we have guests from abroad, none of the graduate students has a problem understanding lectures in English nor discussing mathematics (or general topics) in English, or reading and understanding articles in English. On the rare occasion that we engage a new faculty member who does not speak Hebrew, he is permitted to lecture in English for the first year, until he has learned the language.

On the other hand, I have observed that Hebrew is used less and less in mathematics. In the 1960s, when I studied at the Hebrew University, the weekly colloquiums were, almost without exception, given in Hebrew. Today, here (and in most other mathematics departments in Israel), they are given as a matter of course in English, as are nearly all research seminars (except those that I lecture in). In contrast to what occurred in the past, nearly all Masters and Doctorate theses are written in English. I regret this trend which I see eroding our culture. This is because culture is expressed first in language, and mathematics in Israel is part of our culture. I am not aware that other countries such as France, Germany and Russia are prepared to give up their languages in favor of English. Even countries such as Belgium, Holland, Denmark and Brazil, teach mathematics in their own language. The Hebrew language is no less a language and we must not cede it or our heritage.

Faculty

¶1 Yes, the School of Mathematical Sciences, has experienced a drastic lowering in the number of its faculty.

¶2 Yes, I do know of at least one case where the School was late in offering a position to a young researcher who accepted an offer from a Unversity in Texas. Although, in my experience, Tel Aviv University's management (to be more precise the Rector) does its best to speed up the process, and unofficially approve appointments quickly. On the other hand, one has to be careful not to make any offers which will be regretted in the future.

¶3 Actually, there are no search committees. One of the reasons is that, in fact, for already many years, there have been no official new openings (at least not in the School of Mathematical Sciences); despite this we have taken on a few new researchers. Young lecturers, can help in recruiting candidates by encouraging those suitable to apply.

The general case for mathematics

¶1 To the best of my knowledge, industry (in the broad sense) has absorbed all those suitable math school graduates who were interested in working in the field. Perhaps the heads of departments should research this matter to be able to give accurate data to students and potential students. However, the main pool of our students is and always will be from amongst those who love mathematics. For those who do not love it, no amount of enticement of future employment will help.

¶2 I cannot visualize how it would be possible to teach a course in basic combinatorics and probability which would at the same time be suitable for students of mathematics and humanities. Even if there is experience of this kind in the USA, I think that the shortcomings would out-weigh the benefits.

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