IOWA SECTION, MAA, PANEL DISCUSSION ON THE CUPM REPORT: A GENERAL CURRICULUM IN MATHEMATICS FOR COLLEGES

At the spring, 1966, meeting of the Iowa Section of the MAA a panel discussion of the CUPM report, A General Curriculum in Mathematics for Colleges was held in an attempt to publicize the report and to assess its effect. Judging from the response, more vigorous and sustained efforts to get the report in the right hands and to convince such persons that the report and their own curriculum deserve careful thought will be necessary before there can be much effect to assess. The incentive seems to be present as the attendance was significantly greater than at other recent section meetings and 25 copies of the report turned out to be far too few to supply those who did not yet have a copy. One concern voiced from the audience had to do with the availability of texts for the proposed courses.

The panel was chosen to represent a cross-section of Iowa institutions of higher education--the two-year colleges (Miss Cornwall of Marshalltown Community College), small four-year liberal arts colleges (Professor E. R. Mullins of Grinnell) and universities (Professor J. C. Mathews of Iowa State University) --and was chaired by the Section Chairman. After digesting the report, the panel met once for a preliminary discussion and to plan the manner of presentation at the Section Meeting. This was most helpful.

In general, the individual courses, their several articulations into various course sequences and the overall flavor of the proposed curriculum was felt to be well-conceived and realistic. Representatives of small colleges felt it was quite ambitious but then it would be of little value if there were no challenge. Very likely more controversy about individual courses or sequences will arise as the report is more thoroughly discussed and put into practice. Some more specific if fragmentary comments reflecting the opinion of the panelists follow:

1. The introduction of linear algebra and a spiral of rigor in the elementary calculus sequence is an attractive and fertile idea. Professor Mullins reports that Grinnell has already adopted these ideas, inspired by the CUPM Report.

2. The place given elementary differential equations appeared to meet unanimous approval of the panelists. Both Grinnell and ISU have recently incorporated it in the calculus sequence and Miss Cornwall was gratified that their prior decision to introduce linear algebra rather than differential equations as an additional course in their curriculum is supported, in a sense, by the CUPM Report. This indicates that two-year colleges may find the lower division section of the General Curriculum very attractive.

3. Speaking for the two-year college, Miss Cornwall suggested that a non-calculus-prerequisite course in statistics and probability would meet the needs of more students (such as those in business education). Perhaps more flexibility in that course is needed or else more convincing argument for the calculus prerequisite.

4. Professor Mathews, as well as others, was pleased by the greater flexibility afforded by the replacement of traditional advanced calculus by one semester (Math 5) of advanced multi-variable calculus followed by introductory real analysis (Math 11, 12) for pre-graduate mathematics majors or by applied mathematics (Math 10) or complex analysis (Math 13) for engineers, etc.

Generally speaking, those of us who took time to carefully study the CUPM Report, A General Curriculum in Mathematics for Colleges found it to be a very helpful guide, stimulating, and ambitious enough to require some concerted effort to reap the benefits of the ideas set forth in it.

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