

QEP Question: did the pilot using interim progress reports improve student attitudes toward mathematics?

Answer: NO. In the few cases where the investigator found statistical significance, more than 50% of the values were below the minimum count for the statistical test used.

Summary of Findings from Email Progress Report Experiment during Spring 2005

The treatment was two email progress reports sent to each student in the experimental sections. The students in the control sections received no emails. A math attitude survey was given at the beginning and the end of the semester to both groups.

The experiment during Spring Term 2005 (04-2) involved two sections of MAT 0020, four sections of MAT 1033, and ten sections of MAC 1105 (a total of 16 sections). Six instructors had paired sections of their courses. One of the pair became the experimental section, the other the control section. One instructor had four sections, two experimental and two control. Sections were assigned to the treatment randomly by tossing a coin. There was a total of 560 students, 280 in the experimental groups and 280 in the control groups.

The following results were obtained using Pearson chi square to test for significant differences in math attitudes:

1. **Experimental Group Pretest-Posttest:** There was no significant difference in attitude from the beginning to the end of the semester when the whole experimental group (280 students) was used. When each course was tested separately, no significant difference was found in MAT 1033 and MAC 1105. However, in MAT 0020, there was a significant difference in math attitudes from the beginning to the end of the semester.
2. **Control Group Pretest-Posttest:** There was no significant difference in attitude from the beginning to the end of the semester when the whole control group (280 students) was used. When each course was tested separately, again no significant difference was found.
3. **Control vs. Experimental Group on Pretest:** There was no significant difference in attitude at the beginning of the semester between the experimental and control groups when all 560 students were included. When the courses were separated, only MAT 1033 showed a slight significant difference between the groups, due possibly to the fact that 50% of the cells were below the minimum expected count.
4. **Control vs. Experimental Group on Posttest:** There was no significant difference in attitude at the end of the semester between the experimental and control groups when all 560 students were included. When the courses were separated, a significant difference was found in MAT 1033. It is ambiguous, given the results in (3) above whether this is indeed a significant difference or reflects an initial difference.

An additional survey on attitude toward email was used with the same groups. Using the same pattern as in 1 through 4 above, no significant differences were found. This may be due to the fact that our students are competent in using email and their attitudes were already comfortable.