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University-Level Support for Computerized Exam Scoring

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University-Level Support for Computerized Exam Scoring

Submitted by Chuck Johnson

1/11/2005

Motion:

Be it resolved that the Faculty Senate request that the Administration investigate the need for, and feasibility of, implementing university-level support for computerized exam scoring that produces suitable statistics for evaluation of exams and individual questions.

Rationale:

We very badly need a system for grading scan-sheet-based exams and providing meaningful statistics. There are some great systems out there. Auburn had a SAS-based system that was great 20 years ago. Faculty simply took exams to the Production Control office and picked them up the next day. The results included, in addition to raw scores for each student, measures of central tendency and dispersion for the entire exam and a comprehensive item analysis for each question (difficulty, discrimination, et al).

We are still using decades-old technology from the ScanTron company. The company gives us free use of the machines, presumably because of the profit the company makes from selling scan sheets to the bookstore. (Students pay ten cents per sheet, so someone is making money.) There are two versions of the ScanTron machines on campus: dumb and dumber.

The "dumb" one is attached to a PC (user-supplied). It marks the incorrect answers, prints the raw score on the scan sheet, and allows capture of the results in a data set for further analysis. A determined and resourceful faculty member, who is willing and able to spend the time, could get proper results from this system. However, that person first would have to invest the time to learn how use ScanTron's technology, then identify, obtain, and learn to use software that would perform the desired statistical analysis. Then, for every exam, the faculty member would have to scan the exams, import the data set to the analysis software, and then run the analysis. He or she also would have to wait for ScanTron to replace any malfunctioning equipment, since ScanTron provides no oncampus support. This may be "free" from an administrator's point of view, since it requires no hard dollars. However, it is anything but "free" from the faculty's point of view.

The "dumber" ScanTron simply marks the incorrect answers and prints a raw score in the scan sheet. After running all of the exams, and before turning the machine off, the instructor can run a summary sheet that shows the mean raw score and the number of times each question was missed. Once the machine is turned off even that pitifully inadequate information is gone.

Several years ago a faculty member suggested, in writing through GSU's faculty and staff suggestions program, that we implement a service modeled on Auburn's. The faculty member even obtained a copy of the SAS programs and copyright permission from Auburn University and gave them to a member of the Computer Services staff. However, nothing ever came of it.

This proposed agenda item was triggered by the failure of both the COBA and IT ScanTron machines at the end of spring semester during final exams. Lots of faculty hours and aggravation were wasted hours because of it; again, the "free" system we are using is anything but free.

Descriptive statistics are essential to any objective effort to identify strengths and weakness in an exam and its individual questions. Without them one is relying solely on personal experience, filtered through one's own biases, assumptions, and fallacies. Continuous improvement, the current watchword of accrediting bodies, requires reliable data. This should not be a difficult or expensive problem to solve, as IT problems go. It certainly is important enough to warrant investigation.

SEC Response:

Motion rescinded 1/20/2005 Chuck Johnson's motion concerning University-level support for computerized exam scoring was rescinded when Lisa Spence advised that the issue was currently under study.

Senate Response:

Two agenda requests were received: Chuck Johnson's motion concerning University-level support for computerized exam scoring was withdrawn when Lisa Spence advised that the issue was currently under study.