

article:1461

A Spreadsheet Method for Promoting Learning in a Non-Supervised Testing Environment

A. Background, Aim and Relevance of the Paper

Every educational institution faces challenges in educating its students. We believe every student does have a genuine need to learn otherwise they wouldn't be attending the educational institution. The willingness to learn is not an issue, the desire for high grades, pressure from family, social and financial pressures are the reality for today's students – specifically in Canadian universities – and these pressures cause behaviours in students, and Universities, that dampens the willingness to learn: cheating is one behaviour in students, and lack of proper facilities and large classroom size is another for Universities. Cheating on tests may be one indication of the existence of the above mentioned pressures. The intent of the paper is not to get into the reasons of why students cheat. Rather, it accepts that some students cheat on exams, and it also recognizes that students have social and financial pressures. It recognizes that universities are growing, causing shortages of classroom spaces, and they have their own financial pressures, because Universities in Canada are publicly funded. The intent of the paper is to present one way in which learning can be made effective while understanding the needs and issues of students and Universities in Canada today.

B. Rationale and Overview of the Method:

The spreadsheet method tries to align the needs of students with the needs of the Universities by facilitating the learning experience in the most efficient way possible. Specifically, it allows students to stay at home when writing quizzes and tests without spending the money to come to campus, and it allows them to take the quiz on their own schedule, not the University's or instructor's schedule. This frees up classroom space, and also does not require the time of an invigilator and marker – saving money for both Universities and students. The paper introduces the term “NSTE” (non-supervised testing environments).

Advantages of NSTEs:

- Does not take away from scheduled lecture times
- Does not require an invigilator
- Does not impinge on instructor time
- Does not impinge on student time
- Is a cost-effective way to evaluate student understanding of course material

Disadvantages of NSTEs:

- Raises the potential for student to collaborate
- Unintentionally penalize students who work on individually on the test rather than those who work in a group

The method presented in this paper will never eliminate cheating, however it can help to minimize it. The method can be implemented on a website and so be accessible from anywhere, anytime. It can be programmed using visual basic code in MS Excel. Instructors can upload their quizzes to a central and secure website (residing on a webserver) and they can choose to set the start date and end date of the quiz. The online system will only allow access to the quiz within the start date and end dates.

Students can login and complete the quiz within the times allotted for the quiz. Students can choose to answer all questions at one sitting, or they can return at some other time to complete it. The quiz system marks the answers automatically and instantly presents the results to the students. It will also email the results to the students showing them the questions they answered correctly and those they did not.

The algorithm is fairly simple. The questions must be multiple choice, the algorithm is such that the choices are a function of the questions. This means that the same question can be presented to students in n-different way, where n is a number. So, if 1000 students are in a class, each student could potentially receive the same question with different choices and the same question worded differently. This has the advantage of not requiring hundreds of questions in a database that are randomly chosen, rather one question can be presented differently hundreds of times thus requiring few questions in the database. This adds to the ease of maintainability of quiz questions without requiring a large database of questions. The goal of the method is to have a win-win situation for both students and Universities while ensuring students learn effectively and efficiently in the process.

Author 1: Sebastian Maurice smaurice@ucalgary.ca

Author 2: Robert Day rday@calgary.edu

[: Back to 2006 Winter Issue Vol. 2, No. 1](#)

[: Back to List of Issues](#)

[: Back to Table of Contents](#)