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focus

on university teaching and learning

Teaching and Learning Creativity

One exciting feature of the new emphasis on effective teaching in higher education is an increase in the exchange and dissemination of innovative ideas designed to enliven lectures, involve students in active learning, increase student motivation, and make teaching more rewarding for the professor. In this issue of FOCUS, fourteen college and university teachers from nine Canadian provinces — from Newfoundland to British Columbia — contribute their “field-tested” ideas to enhance teaching and learning. These coast-to-coast teaching tips are rooted in a particular discipline, yet many of the ideas can be applied to other subject areas.

The ideas printed in this newsletter were submitted by participants at the

Eleventh Annual Society for Teaching and Learning in Higher Education Conference held at Dalhousie University in June, 1991. Do you have a teaching tip based on your classroom experience which you would like to communicate to other teaching professors? Please submit your ideas for future publication in FOCUS.

I would like to complete this introduction with a quotation from the article “On Celebrating College Teaching” by Thomas Cronin in the September, 1991 issue of *Political Science & Politics*.

Best wishes for a rewarding academic year.

Alan Wright

“Successful teachers are vital and full of passion. They love to teach as a painter loves to paint, as a writer loves to write, as a singer loves to sing. They are people who have a motive, a passion for their subject, a spontaneity of character, and enormous fun doing what they do.”

Thomas Cronin

Learning by Teaching

Fourth year students, in groups of three, are asked to choose a facilitator and then brainstorm to develop a research proposal in Plant Science (or in another discipline) that will address an environmental issue. The proposal must be written with a justification, objectives, literature review, material and methods section, and a realistic budget. Each section could be done collectively or allocated to individuals within the group. The formal proposal would be marked by the course instructor.

Each group must then synthesize the proposal for a presentation to high school students. The groups would attempt to convince the high school students that the research would actually address an environmental problem. The high school students would evaluate the presentations for clarity, relevance and potential long term impact.

Ralph Martin
Nova Scotia Agricultural College

Developing Critical Listening in the Classroom

Students tend to take notes without paying attention to what the lecturer is saying. To combat this, I ask students in the final 5-10 minutes of each class to write, in three separate sentences, about three concepts they learned during that class. Although the first time students wrote on concepts, two thirds of them got marks of 40% or less, by the fifth time, none got less than 60%. Ten per cent of the students' total mark was based on the students' best efforts (students could drop 20% of their “concept” assignments either for non-attendance or poor quality). These assignments were marked for sentence structure, quality and clarity. (Low marks in early assignments were largely due to students' difficulty in differentiating between facts and concepts.)

Calvin Kalman
Concordia University

Learning Kit Assignments

Purpose: 1) Reinforce content learning by providing an opportunity to teach;
2) Develop skills in creating learning materials.

Preamble: A number of studies have demonstrated that one of the most powerful ways of learning occurs through the opportunity to teach others. Personal understandings have to be clarified, the sequence of learning tasks has to be sorted out and through the presentation itself (verbal or written) there is 'self-persuasion through persuading others.'

Description: Learners undertake research on a selected topic as though they were preparing to produce an essay/term paper. However, they are instructed that at the point when they have clarified their perspective or argument they should assume that their target audience is not the instructor but rather a group of their peers. They are encouraged to develop a kit of sequenced learning materials (readings, original writing, structured exercises and/or other media) to enable their peers to learn what they themselves learned in researching their topic.

Andy Farquharson
University of Victoria

Bringing the Hidden Curriculum out of the Closet

Every teaching program gives educational opportunities to students that extend beyond informational content; for example, the development of the habit of inquiry or an attitude of open-mindedness. This hidden curriculum is usually not articulated. We should analyze our teaching so that we understand the hidden curriculum and then modify our teaching in a way that emphasizes the beneficial and minimizes the non-essential aspects. We should then communicate our insights directly to our students in the form of educational objectives. The results of this will be improved learning, and the promotion of scholarship in both students and teachers.

Penny Hansen
Ken Roberts
Memorial Univ. of Newfoundland

Ending a Lecture with Panache

- The novelist sits down to begin the second draft. She knows, now, what the ending of her novel is to be.
- The score in the hockey game is 2-1. Judging his moment, the coach pulls the goalie, and the team evens the score, while the fans go wild.
- The host of the local C.B.C. radio show knows that the National News is about to begin, but first must come the stock market and the weather. Judging her moment, she ends the current interview gracefully. It is what she is paid to do.
- The excellent lecturer has the class finale already in the can, a dramatic reading, a demonstration, a synthesis. Its length has been precisely timed. Judging the moment, the lecturer moves easily from wherever he or she happens to be a minute or so before the prepared finale must begin. The climax comes precisely on the moment of the ringing of the bell. All the students burst into applause.

Terry Pratt
University of Prince Edward Island

Don't Believe that Measurement: Combining Experimental and Computer Simulation Data

Understanding of the magnitude and nature of measuring errors (accuracy, precision, etc.) is very important in the experimental sciences, but it is quite difficult to teach to freshman students. In my freshman chemistry laboratory class, cost and time constraints dictate that each student shall perform each experiment only once, or at most twice. To put it mildly, the statistical treatment of one or two results is unenlightening.

focus

on university teaching and learning

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What we have done to overcome this problem is to develop or adapt computer simulations for a number of our traditional experiments. We require each student to perform the real experiment once (or twice) to get a physical understanding and feel for the technique involved. We then require them to run the simulation program approximately a dozen times. Next the students combine the real and simulated results to provide sufficient data for them to be able to compute t-testing, linear (or curvilinear) regression analysis and other statistical tests.

John C. O'C. Young
Saint Mary's University

Examination Strategy in Conventional Courses

For student evaluation of one course given in the Medical School at Alberta, we use the following examination format:

Section 1. Essential core material which must be grasped and retained for safe and effective practice. The expected mark is >90%. Poor performance leads to the necessity of re-writing this section before the course requirement is deemed to have been completed. Worth 40% of final mark.

Section 2. Material at the same level of difficulty and using the same format as the licensing exam. Questions should "discriminate". Expected mark 50-80%. Worth 45% of mark.

Section 3. More difficult material to give exceptional students a chance to shine. Expected mark 20-60%. You can secure a good pass and get zero on this section. Worth 15% of final mark.

Advantages: Students see what is important and do not get discouraged by failure at questions of high difficulty.

Disadvantages: It has to be marked thoughtfully and students given marks for each section and individual comments - takes time!

David Cook
University of Alberta

The Use of Real-Life Material in Teaching

I teach what could be a dreary course in compensation management. Instead, I have had three semesters of enthusiastic participation. What I have done is to contact two well-known consulting companies, and persuaded them to let me borrow the material they use with their clients. The fact that we are using the real thing - manuals with the company name, job descriptions taken from clients, etc. - seems to give meaning to an undergraduate's work life - and they do work!

This approach is combined with the necessity to leave the classroom and to use the material in the field. Each student must design two compensation systems from beginning to final presentation. The student, then, must put into practice what company consultants do on a daily basis.

Phillip Wright
University of New Brunswick

Quality Improvement Starts Simply... with a QISS

We might never know what an idea "is" or what really happens when an idea is being taught and learned. We do know that effective interactions between teacher and learner and between each and the communications medium are required. Is there a teacher who has not been paralyzed, however briefly, by the enormity of these interactions let alone by the challenge to improve them?

Experts in fields as diverse as business management and psychotherapy recommend spending more time listening than speaking. Could instructional quality improvement start so simply?

Listen to your students; not only how they score on tests but also how they integrate the subject with their lives. Listen to your inner "voice"; not only as a subject matter expert and as an instructional developer but also as a passionate advocate of ideas. After you make a change to the teaching-learning process, listen to the students and to yourself as you gauge the outcome.

Perhaps it is as simple as: listen, listen, act, listen!

Bill Karle
University of Manitoba

Videotaping an Audience Watching a Video: Who's Watching Whom?

In a conference setting, participants were asked to watch a video and then provide feedback as to why the video did not meet its objectives - to spark discussion and debate on effective and ineffective teaching within a particular university. The response from conference participants who saw the video was heated, emotional and anything but non-reactive. Clearly, we did respond and react (both during and after the video!).

Suggestion: I propose that a controversial video be given a special showing and that participants be taped watching the video and in the discussion that follows. Then this new video could be shown after the initial video to teaching faculty, with discussion and debate certainly to follow!

Nancy Schmidt
University of Guelph

The Study Guide Co-op

Students often want to know what material is most important for an upcoming exam, but instructors don't always want to make those value judgements for the students. This would imply that some material is unimportant and it would shift responsibility away from the learner in terms of evaluating and prioritizing concepts.

THE STUDY GUIDE CO-OP places that responsibility on the students, while saving them work at the same time. If there are 10 chapters being tested on an upcoming exam, divide the class into 10 equal-sized groups (just use the alphabet and last names to divide large classes). Next, assign a different chapter to each group. For example, all students with last names from A-D are responsible for Chapter 1. Students may then submit a summary of the key concepts for their assigned chapter. The instructor or TA picks the best summary for each chapter, and makes enough photocopies for those who chose to take part. Each student then gets a good summary of all 10 chapters after submitting one. Of course, these good summaries are only available to those students who submitted one in the first place.

Gary Poole
Simon Fraser University

Presentation to Class of Collaborative Learning Project

Give students a list of controversial issues or subjects which have been discussed in class. They can also choose their own topics. Form groups of 4-6 students. Hand out newsprint. Ask students to use newsprint to

list Pro's and Con's, highlights of their discussion, or to create illustrations.

Groups then present their findings by means of a skit or a debate.

Mia Gladstone
John Abbott College

Teaching/Learning Through Role Playing

This technique provides opportunities for learning (in this case the subject is Health Assessment) through role playing. The professor acts as facilitator. Students work in small groups. Each group consists of 4 students. A health history is written according to the purpose of the lesson to be taught. Each member in the group is briefed about his/her role to act out.

Alice takes the role of the patient. Bob interviews Alice. Carol and Dave very attentively listen to the interview and write notes to summarize their findings. Dave explains and prepares Alice for a physical examination. Carol is eager to confirm her observation by performing a physical examination on Alice and is also determined to pinpoint the health problem area. Bob and Dave watch Carol's performance. All 4 students analyze the data upon completion of the history and physical examination. They identify the problem; then they list approaches to help solve the problem.

At the end of the class period, the class evaluates the process and shares information.

S. D. Sony
St. Francis Xavier University



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