

Saint Mary's University

CoP-ing at SMU

A Community of Practice Focusing on First-Year Students

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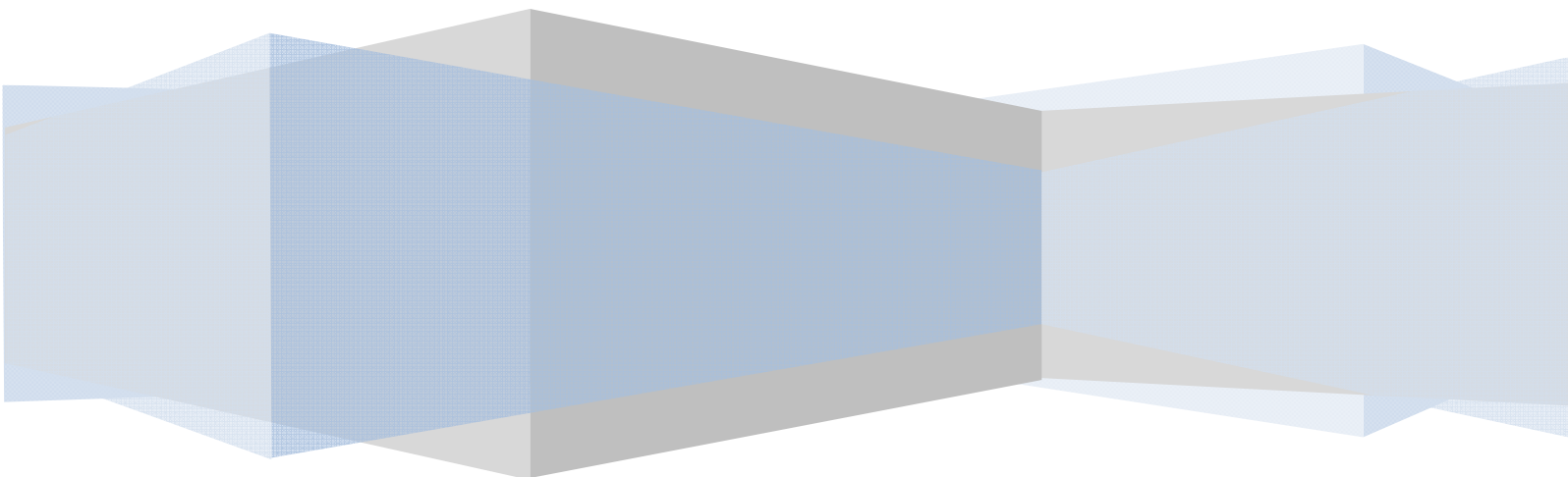
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Teaching a first-year course is hard work. It can be a thankless, time-consuming and exhausting task, made more difficult by what may appear to be an inattentive university administration, indifferent colleagues and unmotivated students. Yet, it is nearly impossible to overstate the importance of first-year courses to ensuring student retention, attracting majors to our programs, and fundamentally laying the groundwork for an educated citizenry. As Erickson, Peters and Strommer (2006: 1) point out, “(p)ersistence in college and eventual degree completion depend heavily on the instruction students encounter during their first semesters on campus.”

That is why during the 2008-09 academic year, a small group of professors who regularly teach first-year courses met to talk about the first-year experience for students at Saint Mary’s. Calling ourselves “A Community of Practice (CoP) of First-Year Academic Success,” this group was composed of 11 professors from all three faculties (Arts, Commerce and Science), reflecting gender-balance, representing all ranks (Full Professor, Associate Professor and Assistant Professor), and including part-time faculty. We met six times during the teaching year and found ourselves immersed in wide-ranging discussions about first-year students. Although we recognized that there will always be upper-level students in our first-year courses, the majority of students are in their first-year, and not only did we find ourselves making similar observations about the challenges of teaching – and reaching – them, but we also came to a consensus: Saint Mary’s needs to focus on first-year students.

This document is meant to serve two purposes. First, we want to share our observations about first-year students, and why institutional resources and departmental initiatives are important to ensuring first-year student success. What the university can do and what departments can do, however, are only part of the picture. Arguably, the most important part is what happens in our individual classrooms, and in that way, each one of us who teach a first-year course needs to take some of the responsibility. We know it’s hard work, and sometimes we are just left with trying to find some coping skills to deal with the multiple challenges. Teaching can leave us feeling isolated and alone. This leads us to the second purpose of this document. We have entitled this “CoP-ing at SMU” to broaden our Community of Practice (CoP) and invite colleagues to join us in making first-year students a priority at Saint Mary’s.

“US” AND “THEM”

There are arguably three common concerns that professors have about their first-year students: 1/ the students are not prepared for university-level work; 2/ the students are disinterested in their courses; and 3/ the students enter university to get a job as opposed to become educated. We need to explore these concerns because they would seem central to student *learning* (or lack thereof). Arguably, if we are going to take responsibility for our *teaching*, we need to see if these concerns say more about “us” (as an institution, as members of a department, or as individual professors) than they say about “them” (our students).

Lack of Academic Preparation

Teaching a first-year course inevitably leads to questions about the literacy and numeracy skills of students as well as overall concerns about the admission standards of the university. Although we have all taught well-prepared students who excel in our courses, the majority appear to be ill-prepared for university-level work. We end up asking ourselves: Why can't they read? Why can't they write? Why can't they think critically? Why can't they work independently? And we are not alone in asking these questions. Recently, the Ontario Confederation of University Faculty Associations (2009) conducted a study where over 55% of respondents stated that first-year students are less prepared for a university education than even three years ago.

This lack of academic preparation by students appears to give credence to the arguments that not only should the university raise admission standards but, more importantly, faculty should not be surprised that some students fail out of university after their first year.

Yet, according to Paul Dixon, Associate Vice-President (Enrolment Management) and Registrar, all entering students with a high school average of at least 80% are guaranteed a scholarship, and in 2008, 44% of new students had scholarships. A more troubling statistic offered by Dixon is that of the 33% of students who did not return to Saint Mary's after their first year, 83% were in good standing. Only 17% were on academic probation. So, if students are not failing out of university, why aren't they returning?

Lack of Interest

The university environment is a fascinating amalgam of ideas, personalities, structures and spaces populated by very smart people. Although the use of the term, "intelligentsia," may be seen as pejorative in some circles, university professors are indeed part of an intellectual elite. We ended up this way largely because we went to university, excelled in our classes, fell in love with our respective disciplines, succeeded in graduate school and found an academic position (in our case) at Saint Mary's. Who couldn't love learning? Specifically, (depending on who is talking) who couldn't love learning political science, philosophy, geology, anthropology, management science, finance, biology, history, environmental studies, economics or chemistry?

Many of today's first-year students – the so-called "millennial generation" – have grown up as technologically adept, culturally aware, socially liberal and frequently praised by parents, teachers and friends. Called "Generation Me" by Jean Twenge (2006), many young people today seek out, and believe that they deserve, only what is interesting, important and relevant to them. Unfortunately (and not surprisingly perhaps to anyone but an academic), many first-year students do not find our respective disciplines inherently interesting. One of the prime challenges of teaching first-year courses is the diversity of students, many of whom are taking the course as a requirement.

According to Erickson, Peters and Strommer (2006: 10-13), this challenge to faculty has often resulted in a “bargain” being made at the first-year level where professors end up adjusting their demands and students resign to memorizing material. To the extent that learning is taking place, it is “surface learning” as opposed to “deep learning” where a surface approach to learning merely “[asks] students to reproduce information rather than make sense of it,” thus engaging neither the professor nor the student (Erickson and Strommer, 2005: 248).

Yet, we draw our majors from the first-year classroom. How many departments, however, make first-year teaching a priority? To what extent are course allocations determined by the realization that a student’s first exposure to our respective disciplines is who teaches a first-year course? To what extent does the university reward first-year teaching? There would arguably be a university-wide effect on the first-year experience of students if the best teachers of each department taught first-year courses.

At the same time, the lack of interest exhibited by students in their first-year courses does not explain why that alarming number of 33% of students at Saint Mary’s do not return to university.

Lack of Motivation

Students go to university for a variety of reasons. According to Paul Dixon, a majority of new students at Saint Mary’s (68%) are pursuing university studies for job-related reasons, and a much smaller percentage (21%) are here for academic reasons. These numbers are not surprising. In the United States, for example, roughly 72% of incoming students go to university to get better jobs or train for specific careers (Erickson and Strommer, 2005: 244).

These extrinsic motivations for attending university have presented a number of challenges beyond the first-year classroom. Motivated primarily by grades and getting the degree, students do not acquire the love of learning. This not only undermines the intellectual enterprise, but also propagates the viewpoint that universities are supposed to prepare students for employment. Most of us would probably argue that the extrinsic motivation to get a job and the intrinsic motivation to learn are not mutually exclusive, but we would be extremely reticent to place more importance (as students do) on extrinsic motivations.

That is arguably why an important task of those who teach first-year courses must be to “[shift] students away from the extrinsic motivations of rewards and punishments in the form of grades to an intrinsic desire to learn [and this] requires student-centered activities and a change in the learning environment” (Erickson and Strommer, 2005: 244). By overlooking the importance of this task, we may be compounding the problems that many of us face with students who seem to feel entitled to high grades, often uncorrelated to the amount of effort that they have put in their courses. We need to think about and work on how we can nurture the intellectual curiosity of our students from the very beginning. As Erickson, Peters and Strommer (2006: 13) nicely cautions us: “(O)nce the bargain [of lesser demands by professor and memorization of material by students] is struck the opportunity to bridge the gap between first-year students and their

instructors' expectations with creative instruction, sufficient practice, and appropriate support is squandered. Instead, we adapt our courses to what we think students are able and willing to do...thus setting the tone not only for their first semesters but very probably for their last semesters as well."

Accordingly, if extrinsic motivations persist, students may lose out on getting an education but they still end up with the degree. So, why are students not returning to university? According to Paul Dixon, a 2006 survey indicated that 30% of entering students at Saint Mary's could be classified as "drifters", students who pursue university primarily due to the default motivation—they cannot specify *why* they are applying to university except that they think that, given the alternatives, it is the best thing to do. It is likely that the "drifters" are the ones who end up not returning to university after their first year. This is supported by the work of Betsy Barefoot (2008) who argues that, of the five theoretical perspectives determining first-year success, namely 1/ institutional fit, 2/ social and academic integration, 3/ campus involvement, 4/ engagement in learning, and 5/ commitment and motivation, it is the last perspective that is most important. According to Barefoot (2008): "Commitment and motivation...will often mitigate inadequate academic preparation, family problems, money difficulties, etc. A committed, motivated student is hard to stop!"

Stating this leads to Barefoot's question and ours: "How then do we instill commitment and motivation in today's students?" Asking this question helps us not only to think about, and work on, how we can nurture our students' intrinsic motivations, but also to motivate them in the first place.

THE IMPORTANCE OF INSTITUTIONAL RESOURCES

"Improvement of first-year instruction cannot depend on the willingness of faculty to devote more of their nights and weekends to teaching. Nor can it depend on persuading them to shift time and effort away from research and creative activities valued by the institution only to invest it in first-year classrooms, unless teaching first-year students becomes central to the institution's culture and faculty reward structure" (Erickson, Peters and Strommer 2006: 255). Saint Mary's needs to invest resources in, and foster an institutional climate that values, first-year teaching.

We can begin by undertaking a number of institutional efforts. One of the university's first priorities should be to provide faculty access of pictures of students in their courses. We applaud our colleagues who use their own cameras to take pictures of their students on a course-by-course basis, but this is a time-consuming solution. As our first-year courses increase in size, providing student pictures to faculty becomes more important. As well, the university should regularly provide department chairs with a list of their majors. This will facilitate interaction with students, increasing a sense of belonging to their major program of study.

We should also explore further the idea of a university-wide orientation program, centred on an academic component and required for all first-year students. Is a required University 1000-level 3.0 credit course a viable option? Or a required one-week orientation program, not associated with Orientation Week of the Saint Mary's University Student Association (SMUSA)? We discussed the possibility of a "SMUReads" program modeled on "TrentReads" as a possibility but SMUSA informed us that students do not want an academic component to their Orientation Week. Barefoot (2008) points out that there is strong evidence linking orientation with retention with longer orientation programs being more successful.

We also discussed the recruitment of students. How successful has Saint Mary's been in recruiting the best students, particularly from the Halifax metro area? Where do the top high school students in Nova Scotia go? Now that more Nova Scotia high schools offer the International Baccalaureate (IB) program, where do the top IB students go? Is there a role to be played by departments and individual faculty members in recruiting students?

To that, we discussed that the university's reputation among the top students in the Halifax metro area may have less to do with the caliber of our faculty and programs and more to do with the perceived caliber (or lack thereof) of students at Saint Mary's. Top students arguably do not want to sit in classrooms with peers whom they perceive to be less talented and less motivated than themselves. If we are really going to address the university's reputation as "Robie High," we need to explore why it is that some perceive that the university's commitment to accessibility has translated to the absence of admission standards, a perception found not only within the university community, but more importantly outside of it: in the high schools among students.

What else can we do as a university to make first-year students an institutional priority?

DEPARTMENTAL INITIATIVES

Departments have undertaken initiatives that signal a commitment to first-year instruction. Rob Singer discusses work done by the Department of Chemistry, and Larry Haiven provides in bullet form the nature of first-year instruction in Management (see *Appendix 1: Departmental Initiatives*).

What else have other departments done to place priority on first-year teaching?

INDIVIDUAL "BEST PRACTICES"

Along with the commitment of institutional resources and the importance of departmental initiatives, the work that each of us does in the classroom is central to the success of our first-year students. Shelagh Crooks has designed a "template" for her Philosophy course on Critical Thinking to develop analytical literacy, and her contribution provides these methodologies and a description of how they work in the classroom. Dawn Grimes-MacLellan talks about three important strategies that she uses in her large lecture course of more than 200 students in

Anthropology. On a much smaller scale teaching about 30 students, Jeremy Lundholm discusses his three-prong approach to engage his students in Biology and Environmental Studies. Jim Morrison offers some of his best practices in History as well as further thoughts about the need to understand what students are learning at the grade-12 level before they enter university. Both Howard Donohoe of Geology and Roxanne Richardson of Environmental Studies offer richly detailed and reflective pieces on their best practices in the classroom. Finally, Eric Lee of Finance, Management Science, and Information Systems outlines his “code of conduct” for students to ensure learning, the “key components” on his method of teaching, and the importance of “students teaching students” (see *Appendix 2: Individual Best Practices*).

What other “best practices” have others used, and how might we continue to bring these together?

“CoP-ING” AT SMU: AN INVITATION

This document outlining our discussions, our concerns and our questions is open-ended. We intended that this would be a “living document,” constantly changing and evolving. We have only just begun the conversation on first-year students at Saint Mary’s, and central to this conversation are faculty members, like us, who teach first-year courses. We encourage you not only to contact any one of us on a one-by-one basis, but also to help us continue our Community of Practice because we think “CoP-ing” at SMU has to be a university-wide, cross-faculty and inter-departmental effort led by those of us who *teach* first-year students.

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Shelagh Crooks

Howard Donohoe

Dawn Grimes-MacLellan

Larry Haiven

Eric Lee

Jeremy Lundholm

James Morrison

Roxanne Richardson

Najma Sharif

Robert Singer

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Appendix 1: Departmental Initiatives

The Department of Chemistry - Robert Singer

1. Preamble:

The General Chemistry I – CHEM1210.1 course offered through the department of Chemistry at Saint Mary's University had an enrolment of 240 students on September 3, 2009 – the first day of classes. These students were divided into two sections (i.e. CHEM1210.1A & CHEM1210.1B) – one of 100 students with a lecture on Mondays and Wednesdays at 11:30 am – 12:45 pm and the other 140 students with a lecture on Tuesdays and Thursdays at 1:00 pm – 2:15 pm. Both classes were held in large lecture theatres that provided an appropriate amount of seating and audio-visual equipment. The laboratory component of this course was conducted Monday – Friday at 2:30 pm – 5:30 pm in our newly renovated 1st year chemistry lab.

2. Course Syllabus

The course syllabus for this course was designed to be as concise and informative to the student as possible. The information of the syllabus was intended to answer typical questions a 1st year student would have about any course. All of the typical pieces of information were included (i.e. course outline, lecture, lab, and office locations and hours, etc.) as was the marking scheme for the course. The course had two in class midterm tests, 75 minutes each, worth a total of 25 % of the total grade, a final exam to be held during the final exam schedule, 3 hours (35 %), Assignments and quizzes (20 %), and lab grade (20%). The intent of having two tests was to allow the student who did not do as well as they would have liked on the 1st test to improve their performance on the 2nd test. This method of marking did not give the students a sense of futility if they “blew” the 1st test and gave them something to shoot for. I frequently encouraged students to take advantage of the marking scheme and to take advantage of the opportunities for “redemption” built into the course.

The students were informed about the purposes of this course. Other than the obvious (i.e. learn chemistry, in case anyone was asking??), one of these was to bring all 1st year chemistry students up to a comparable level of proficiency in chemistry so that they could use this course as a prerequisite and be well prepared to move onto other chemistry courses. They were told about the variations in the levels of preparation students receive coming from different schools, provinces, and countries and that some of them would have to be patient at times while some basics were covered. At all times during the semester was the idea of understanding and cooperation of fellow students emphasized.

3. Laboratory

The laboratory component of this course was conducted in a newly renovated 1st year lab in which chemical sensors, etc. were interfaced directly with computers. All experiments were recently adapted and/or created to be amenable to this method of experimental delivery. These computer assisted lab sessions allowed students to become familiar with data entry and processing as well as how computers can be used to control chemical instrumentation. The experiments included pre-lab lecture and sometimes follow-up at the end of the session. Each session has a lab instructor and at least two teaching assistants.

4. Student Resources

Student resources, especially for the 1st year student, were perhaps the most important aspect of this course outside of the classroom. Assignments for this course were administered using an online assignment resource offered by the publisher of the required text. The Mastering Chemistry website allowed students to complete and submit their assignments online. The grading format and assignment parameters for each assignment could be easily set by the instructor. For example, my approach was to use assignments as a means to have the students learn as much chemistry as possible rather than use assignments as a means to assign grades (or deduct them??). Hence, the software allowed the assignment to permit up to six incorrect answers until the student got the correct answer to any assignment question. Furthermore, there were “hints” that could be accessed by the student on each question and “peeks” at the right answer were permitted to a certain degree. The software tabulated and recorded all grades for submitted work and even allowed the professor to view answers (right or wrong and the time they were completed, etc.).

The online administration of assignments not only enhanced the learning experience of the students but also freed up other resources. Our department currently allows one teaching assistants for every 50 students enrolled in a given course. This corresponded to 5 teaching assistants for the two sections of this course combined. Rather than use these assistants for marking as they are traditionally used, the TA's were used to conduct tutorial sessions. This translated to 2 x 2 hr tutorial sessions x 5 days = 10 tutorial session per week. After a student survey the tutorial sessions were scheduled so that every student could attend no fewer than two tutorial sessions per week.

The Chemistry Student Society also provides free private tutoring for fellow society members. If neither method of tutoring students sufficed then there were ample office hours offered by the professor well in excess of the minimum required. In fact, I told students they could come to see me any time and that I would drop what I was doing to help them out.

The department of Chemistry also conducts a mentorship program on an annual basis in which each student is assigned a faculty member who can assist them with issues of an academic nature (i.e. course selection, etc.). This is initiated with each 1st year student and is intended to last throughout the student's tenure at Saint Mary's.

5. Student – Teacher Interactions

From the 1st class I sought to develop good teacher –student relationships. This began by trying to get to know every student’s name. I spent the bulk of the 1st class getting each student to tell the rest of the class their name and where they were from. The intent was not only to be able to put a face to a name but also to encourage students to get to know each other and organize themselves into study groups. I also emphasized the multicultural aspect of university student bodies and how this was an enriching experience those students ought to exploit.

Students were ceaselessly encouraged to ask questions. They were told that there is no such thing as a dumb question in my classroom...only unnecessary ones!!! I tried to avoid having the same minority of students (aka the keeners) answer all questions by going around the room and asking groups of students to answer questions posed during lectures. When the idea of playing favourites arose, I indicated that I have no favourites and that everyone in the room was equal since I did not like any of the students. ...which bring me to an important “practice” ...that of humour. The use of humour in the classroom shows the students that the professor is actually “human” just like them. I enjoy the use of humour either from telling jokes (carefully selected so as not to offend any of the increasingly sensitive youth of today) or by exposing what I called “my humanity” by admitting my frequent mistakes.

Relating course material to everyday life experiences is also a very useful tool to help students appreciate the material. And last but not least by any means.....the professor must demonstrate that they are excited and “fired up” about the course material. If the course material is delivered in a monotonous drone the students will find one’s topic boring. Since I love what I do (i.e. chemistry in case you were wondering) I try to convey this to the students. Perhaps they are fooled into thinking that there is something to this stuff? Whatever the case it does win over a few in the long run.

Many of the student – teacher interaction issues rely to a great deal on the individual and unfortunately cannot be learned or taught to the professor. (i.e. it comes to some people naturally...while others....well there simply isn’t anything they can do to change the grim reality). Perhaps the best advice then would be to be sure to know your material since, in my experience, undergraduate students can tell when the prof. does know what they’re talking about, they smell weakness, and tend to go for the jugular...then no one wins, the students don’t learn....and we’ve failed.

The Department of Management – Larry Haiven

- The only first year class I teach is Mgmt 1281 (Introduction to Business Management). Part of the design of this class was devised by a group of people in the Management Department before I arrived; part of it is my own.
- It is a compulsory core course for 1st year Commerce students (and an elective for others from the faculties of Arts and Science). Therefore the enrollment is quite high; over 1000 students take it every academic year.
- While some sections of this class are “normal” i.e. 60-70 students, the majority of students take it as a class of 250.
- When it is done this way, the students attend one 75-minute lecture of 250 people a week.
- They also attend, in groups of 25, one 75-minute “workshop” per week.
- These workshops are led by student (senior Commerce undergrad or MBA) assistants (workshop co-ordinators), following a well-laid-out regimen prepared by the instructor.
- Basically, the workshops give students the opportunity to discuss case studies and exercises based on the material of their previous lecture.
- These workshops are further broken down into discussion groups of 4 to 5 students.
- The workshop co-ordinators also act as mentors and helpers to the students under their tutelage (the overall instructor also has office hours.)
- We have found this way of offering the course to have considerable merit. It allows us to accommodate large numbers yet affords a certain degree of intimacy for the students.
- The course contains multiple forms of tests and assignments. As I teach it, there are three midterm tests, a final exam, and several assignments. These are all written and/or handed in at the workshops.
- From the beginning, the large-section class has included a component devoted to critical thinking skills. A special text is used, and I devote two lectures and two workshops to the topic.
- As I teach the course, it also includes a lecture and assignment giving students the rudiments of researching, attributing and citing in written work. I do not assign a large essay, but rather get the students to practise looking up materials on the web AND in the library. I also get them to use the sources properly.
- The lectures are done with a combination of powerpoint, clickers, guest speakers, and videos.
- I have just started using the clicker technology this academic year but find it extremely valuable in keeping student attention, and in breaking the lecture up, and in testing their comprehension of the material.
- Although I do not give grades for attendance at the lectures, I do give a mark for attendance at workshops and there is also a participation grade for workshops.
- With the clicker technology, it is possible to keep attendance at the lectures. Although this is not used for grading, it is very useful to look at student attendance to see why they might not be doing well in the class.

Appendix 2: Individual Best Practices

Shelagh Crooks, Philosophy

From Compendium 2, Vol 1, No 1 (2008)

Developing Analytical Literacy: The Template Approach

Shelagh Crooks

Argument is an important form of discourse that lies at the heart of intellectual and popular culture. Historians seek to justify the contention that the civil conflict in Rwanda counts as genocide by citing the definition of genocide and by providing evidence from historical events that the intentions and actions of the aggressors in this conflict fit that definition. Medical researchers make a case for the use of vitamin D as a possible cancer preventative based on epidemiological studies. Politicians with an environmental agenda seek to establish the negative impact of global warming on the planet by citing evidence of open seas and melting icebergs in the high Arctic. Groups and individuals constantly vie for our adherence to their way of seeing things, and our acceptance of their view of what is true, important, and worth doing. In each case, the scholar or advocate is deploying the device of argument, which is to say they offer evidence or reasons to justify the claims they would have us believe.

It is because of the centrality of argumentative discourse in popular and intellectual communication that people need to become competent in reading and analyzing argument. For the purpose of this essay, this kind of competence will be called "analytical literacy." Individuals who are analytically literate display three abilities in their reading and writing: the ability to read and respond to argument with intelligence and discernment (analytical reading), the ability to construct an argument that is rationally persuasive (analytical writing), and the ability to discern when argumentative analysis is called for and when it is not.

Typically, universities have left the task of training students in analytic reading and writing to courses in critical thinking or reasoning skills which are usually taught by philosophy departments. These courses provide students with opportunities to engage in and practice the analysis and construction of argument. The results of students' work here are encouraging: psychological studies—such as the research done by Kuhn, Shaw, and Felton—indicate that students who take critical thinking courses become better able to evaluate the argumentative content in oral and written material, and they develop some facility in adducing and assessing evidence in their own academic writing.

But the system of providing special courses in this kind of analysis has limitations. For one thing, not all students actually take courses in critical thinking or reasoning during their tenure at university. In such cases, they are left to acquire analytic skills when they can, through work in courses that have no special mandate to provide training in such skills. Obviously, this self-instruction is a hit-and-miss affair. Not only that, but becoming analytically literate is a process that necessarily occurs over time. This means that students—including those who have received the requisite training—will need to practice and develop their analytic reading and writing skills on an ongoing basis. This practice can, and arguably should, occur beyond the critical thinking class, in the diverse curriculum environments provided by the wider university.

How might this be accomplished? I suggest that instructors might require their students to conduct analytic reading and writing according to common templates. The templates I propose are designed to prompt students to engage in analytical reflection appropriate to the tasks of reading and writing, respectively.

Consider analytic reading. Engaging in reading of this kind involves identifying the basic structure of the argument within the text. Readers proceed by asking and answering four simple, but conceptually pivotal questions:

1. What is the issue?
2. What is the author's position?
3. What evidence does the author provide in support of this position?
4. (The evaluative question.) Does the evidence provide adequate justification for the position? Is it worthy of belief?

These questions represent the foundation of analytic reading. In asking these four questions, readers distinguish evidence from the position the evidence supports. Imposing these categories on the material enables readers to decide whether the position promoted is likely to be true, and thus worthy of belief.

In analytic writing, a slightly altered template is called for. Instead of identifying and evaluating someone else's argument, writers create and evaluate their own argument structure. Writers proceed by asking four questions:

1. What is the issue (that I am dealing with)?
2. What is my position?
3. What evidence do I have to support this position?

4. (The evaluative question turned inward.) Does this evidence provide adequate justification for the position I am advocating? Should I believe it?

There are, of course, other questions that could be included in these templates. In the case of the writing template, an additional question that prompts reflection about possible counter-evidence could be included: "is there other evidence challenging my position, which I have not taken into account?" A similar question could be added to the reading template: "is there other evidence challenging the author's position, which the author has not considered?" These questions have the virtue of prompting thoroughness of reflection on the part of the reader or writer. They are important, but not absolutely necessary. The four-question reading and writing templates represent the minimum core that needs to be addressed in analytic reading and writing. Simply put, the readers or writers must understand what the issue is, what the position on the issue is, and the evidence for the position, before they can make an intelligent, informed judgment as to what they will or will not take on as a belief.

I have used these analytic reading and writing templates in a number of my own philosophy classes. The templates have worked particularly well with first-year students who need considerable guidance in reading and writing. In general, I require students to perform an exercise in analysis once a week. For reading assignments, I provide a short article—sometimes on a philosophical topic, sometimes from the popular press—and ask the students to read the article according to the reading template. They record their answers under the rough headings: "the issue," "the position," "the evidence," and "my evaluation." Students soon discover that the questions need to be answered in sequence. Obviously, they cannot identify the author's position until they know what the position is connected to (the issue) and so on. Analytic writing follows essentially the same pattern. In this case, students are asked to write on the curriculum topic or a current news item, according to the four-question writing template.

What are the benefits and deficits of the reading and writing template approach? Let us start with the benefits.

1. I believe that the templates have the potential to take the mystery out of analytic reading and writing. The templates provide a solid framework for students' reflections on the issue they are considering. In following the templates, students can be assured that they are deploying the right concepts—the concepts of evidence and justification—and that they are asking the right analytic questions. In a given case, of course, they may fail to answer the questions correctly. They may not read carefully enough to accurately identify the author's position, or they may have difficulty articulating their own position. Successfully completing

this part of the task of analysis takes a good deal of practice. But students can be confident that they have a structure for analysis that can be widely deployed, and that following this structure means they are proceeding in an analytical direction.

2. The questions contained in the writing template encourage self-reflective thought. This is to say that the questions require students to think about their own thoughts and to engage in reflective internal dialogue. For instance, the question, "is the evidence I have adequate to support my belief?" invites students to engage in deliberate and honest evaluation of their own beliefs and the reasons for those beliefs. Answering this question requires students to distance themselves from their beliefs, and to treat them much as they might treat the beliefs of another person. They test their beliefs against possible objections: "I believe that torture is a useful tool in the war against terrorism. But torture is morally abhorrent, there is considerable evidence that torture does not always reveal the truth, and there is always the possibility that the authorities will misidentify someone as a terrorist," and so on. Engagement in this kind of inquiry heightens students' awareness of their cognitive propensities. They come to know things about themselves that they would do well to know. They may, for instance, come to know that they are inclined to be credulous: "I tend to be unduly influenced by the views of my peers." But, armed with this knowledge, they are in a position to correct for it: "is this happening to me now? Am I simply adopting this belief because it is popular with my friends? I should look into the facts more carefully." This type of reflective thinking is better known as "metacognition," which has been studied by the developmental psychologists John Flavell and Deanna Kuhn.
3. The templates are relatively easy to deploy in a classroom setting. I find that an analytic reading of a two-page article, including class discussion, can be completed in about thirty minutes. This means that it is feasible to incorporate analytic reading and writing exercises into course work, without taking an excessive amount of time away from other curriculum activities.

This being said, the reading and writing templates do have limitations. Though they are well-suited to a number of disciplines—including philosophy, anthropology, biology, and marketing—they do not address the reading and writing issues of disciplines for which argument is not the core form of discourse. This is to say that the templates have wide, but not universal, applicability across the university curriculum. However, the analytic reading and writing templates could conceivably be used to illustrate the kinds of questions that do not get asked when considering a work of art or literature from a creative, imaginative, or emotive perspective. In such a case, students would be learning the third skill required for analytic literacy: the skill of discerning when argument analysis is called for, and when it is not.

Let me conclude by providing an example of an analytical reading. In August of 2005, *Time* magazine published a one-page article entitled, "Blood on the Home Front." The article discusses the violent deaths of four women during a seven-week period on the military base at Fort Bragg, North Carolina. Four soldiers, recently involved in the American military intervention in Afghanistan, were accused of killing their wives. In the article, the author notes that the deaths of these women had received a good deal of media attention. The author also notes that the popular explanation for the violent behavior of the accused was that the men were suffering from post-traumatic stress disorder acquired via their military service. In deploying the reading template, we need to ask and answer the four analytical questions: (1) What is the issue? (2) What is the author's position? (3) What evidence does the author provide in support of this position? (4) Does the evidence provide adequate justification for the position? Here is what the answers to these questions might look like:

THE ISSUE: What caused the murders of four military wives at Fort Bragg?

THE POSITION: The author contends that the cause of the murders was likely garden-variety domestic violence, rather than post-traumatic stress from participation in the Afghan conflict.

THE EVIDENCE: The author cites three items of evidence. (1) The fact that four women were killed in seven weeks at Fort Bragg by their spouses is not statistically significant: this number of violent deaths out of a population of 20,000 reflects the average for the non-military population. (2) Only two of the four accused could have suffered post-traumatic stress, as only two actually saw active service in Afghanistan. (3) There was a pattern of domestic violence in the households of at least two of the accused men prior to the murders.

MY EVALUATION: The evidence put forward by the author of the article is sufficient to establish a greater likelihood of domestic violence than of post-traumatic stress as an explanation for the murders. The most telling piece of evidence here is the statistical evidence, which indicates that the deaths are not unusual, so there is no need to employ a special explanation for them.

Clearly, there is a lot more that can be done with this article. For instance, students could be asked to consider domestic violence as a social issue, or they could discuss the responsibility of the popular press to report in a non-sensational manner. They could begin to examine the phenomenon of post-traumatic stress, or they could inquire into the nature of causal explanation. Worthy as they are, these subsequent inquiries, depend first and foremost on the students' abilities to interact with the text in a literate manner. This is to say that students need to be able to read and understand the basic theses that authors promote, and the arguments that they provide in support of those theses. Analogously, in writing, students need to be able to clearly identify and articulate their own theses, and they need to be able to generate a competent argument in support of them. And, perhaps most importantly, students need to be self-reflective and self-critical enough to know when they have not

succeeded in accomplishing these tasks. This kind of literacy, which I have called analytical literacy, is something that students as creators and consumers of ideas need to be able to do. If students do not develop a capacity for analytical literacy, then they cannot go forward to perform the various social, political, and moral analyses that we, as educators, want them to perform.

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Dawn Grimes-MacLellan, Anthropology

In the large lecture course (200+ enrollment) where I teach first-year students, I focus on connecting with students to promote a clear understanding of my course aims and learning goals, to support them in interacting with myself and their peers, and to engage them in course concepts by applying them to contemporary issues. My strategies to achieve these include:

Adjusting students' expectations: I strive to make my syllabus and policies as clear as possible with assignment deadlines, missed exams procedures, etc. In addition, I explain the type of learning expected in my course, and I provide examples during the early weeks of course (through in-class exercises, and weekly online quizzes). I also offer some flexibility where possible (e.g. dropping the lowest quiz grade; or requiring completion of 10/12 in-class exercises during the course).

Being approachable: Even in a large lecture class, I work hard at connecting with students by coming to class early and talking with students, mingling among students during individual and group in-class exercises, moving up and down the aisles while lecturing, asking questions to prompt discussion and moving close to students for their answers, and administering early course evaluations (three or four weeks into the course) to find out what is helping/hindering student learning (and I address these during the subsequent lecture).

Encouraging engagement with course content and promoting individual responsibility: I create in-class exercises that apply course concepts to contemporary topics (for example, during a chapter on Race and Ethnicity, we discussed the Toronto District School Board's controversial decision to establish an Africentric school). These weekly exercises also serve to make students responsible for their own attendance in the course as the in-class exercises are collected and students receive marks for their completion. All grades for the course are posted online so students can keep track of their progress. I will also contact students who are performing poorly and encourage them to see me to discuss problems they are having in the course.

Jeremy Lundholm, Biology and Environmental Studies

Best Practices for Teaching First Year Courses

Please bear in mind: I have only taught a first year course twice. It has been challenging but enjoyable in the end (easy to say now that it is over for another year). I will be teaching this same course indefinitely, so I am looking forward to improving it.

The course I have been teaching is small (~30 students) I will try to keep this in mind while trying to articulate what has worked for me.

1. Embody the themes of your program in the first year course

I look at the first year course I teach as a platform for introducing students to key themes of our entire program. For us in Environmental Studies, I guess “sustainability” is one of those themes (this is emerging as a theme for SMU as a whole as well). The first thing I did along these lines was to make the course paperless. Weekly reading assignments are handed in on email, and returned the same way. On the first day of classes, I explain the rationale behind this and go over the mechanics of the course. It forces all the students to log onto SMUPOINT and download the course outline at first. We do use paper for the in-class tests but all other assignments are handed in and returned online. The students appear to have no problem with this (besides a few minor computer incompatibility issues) and one of the student projects showed that this cuts paper usage by over 90% compared with conventional courses. Other students spoke to several faculty in a range of departments and found that the majority were unwilling to consider a paperless course, so this may not be a popular idea. The point of introducing this as a “best practice” is that it results in learning outside of the actual content of the course as it is built into the very structure and logistics of the course.

2. Ditch the textbook

Instead of a standard environmental science text, I have the students read three books of popular non-fiction. I take the responsibility of putting these into a framework in the lectures and add context and content to round out their experience (again, in the lectures). Students have responded very positively to these books. They also like the fact that it is a cheaper option than a traditional textbook. In order to track the students’ engagement with the text, they submit weekly reading assignments for marks. The assignments have questions that cover factual knowledge, vocabulary definitions, critical evaluation of the material, synthesis and personal opinion. This allows me to highlight literacy as a cornerstone of the course. By this I mean both general literacy skills, discipline specific vocabulary and style, and the inculcation of a reading habit in first year.

3. Introduce the students to key people on campus (support staff, other faculty and staff in your department/program, administrators etc.)

I think these are the practices I'm most pleased with from my experience over the last two years. We try to get as many people involved with environmental issues on campus as possible to speak to the class. We also get Facilities Management to give us a tour of some of the campus infrastructure and sustainability initiatives. This affords the students a more comprehensive introduction to the campus and its people. It also makes the instructor's role more one of a coordinator and instructional designer (and I don't have to prepare as many lectures). The students love this aspect of the course, and many have indicated that they have sought out some of the other faculty that have given guest lectures and taken further courses with them. We also engage the assistance of the library and Writing Centre staff to lead workshops on various topics that all centre on aspects of literacy.

Jim Morrison, History

Best Practices and Further Thoughts

1. Getting to know the students in a large class: As we do not have individual photos of our students supplied by the University, I usually ask the students to voluntarily lend me their SMU ID, Drivers License or other photo ID for the length of the class time period and ask my secretary to photocopy them while the class is going on. They are returned at the end of class. (I think scanning may raise some other issues).
2. In both my full year and semester courses I have a "half time evaluation" mid term to see where I am with the students. The composition of each year is different and often pedagogical changes are necessary rather than wait for "too late" evaluation near the end of term.
3. As a class break, I devise "Jeopardy or "Who wants to pay their tuition ?"(Who wants to be a Millionaire?) quiz/games utilizing historical material from the course. That always loosens people up a bit.
4. I will often include local material in my Global history course of Canadians /Nova Scotians who have been prominent internationally. For example two of the British governors in early 20th West Africa were Canadians. Many street names in Halifax are named after famous battles(Lucknow Street). What does that say about Halifax and Empire?
5. In terms of our responsibilities as first year Professors, there is an ever widening knowledge chasm between Grade 12 and first year University. I think we should have some idea of what our students have brought with them as a knowledge base in our specific disciplines. For example I know that the Global History course in High School only covers the period after 1945 and that the African Nova Scotian course in Grade 11 has a new text that looks at the African NS experience in a global perspective. This is a useful reference point for me and for a number of my students as we go through the year.

Howard Donohoe, Geology

Best Practices in Teaching First Year Courses

Introduction

Although I teach courses numbered as first year, in reality these courses are populated by students from first to fifth years in all faculties. The courses are GEOL 1206 Global Change and GEOL 1208 Environmental Geology: Atlantic Canada Perspective.

My insight into what practices have worked comes from discussions with students, reading their entries in course journals and reading their comments in the ICE.

The Learning Environment

Creating a warm, friendly and encouraging learning environment is not easy. I try for this in my classes. I talk to them. I start asking for comments and voluntary responses to questions on the first class and continue through the term. Sometimes I will make fun of myself for misunderstanding a student or not getting something correct. Where appropriate I will say "I don't know" just so my students understand that saying you don't know an answer is OK. I then try to work my way through the answer so students can see the process. If I simply don't know, I will ask the class. Usually someone knows.

I have 'pep talks' with the class about the fun of learning now and in the future (life-long learning). I also talk about being 'civil to others.'

As the Keeble C of P has discussed many times, remembering names is important for fostering trust and a comfortable learning environment. I really work hard at remembering names and faces. According to some of my students, many of their instructors do not usually try to do this.

I speak about ethics in the courses and the concept of academic integrity. I want them to understand what their responsibilities are for academic integrity.

Class Organization

In the first several classes I organize the class into work/study groups, which stay together through the term. These groups are essential to the way some of the learning experiences are created. I have allowed the students to form their own groups at times and I have also had the class 'count-off' so that all people with the number three form a group.

After attending the UPEI Summer Institute I have started to use a method based on assessment of experience. With four criteria for assessment, I ask the students to rate their experience. The categories of self-assessment are: (1) experience in groups, (2) knowledge of science through courses, (3) knowledge of geology through courses and (4) present year of university. Each category has ratings from which students choose the appropriate response and award themselves a certain number of points.

I then ask for students with the highest number of points and get those students distributed around the groups. Then I choose another range of points and ask those students to come forward. All of the students are distributed in the groups according to their experience. What comes from this method is a much better degree of experience in each group that translates into more mentoring and assistance to first year students by their more experienced colleagues.

When first year students are brought together with others of different faculties, there is the potential for good mentoring and real learning.

At the beginning of each class I talk a short time about something of interest or ask a leading question. Last term I asked if environmental geology was being discussed in the US elections. [The answer is 'yes.' It was through the talk about probable oil reserves in the US and the location for storing high level radioactive waste.] I then describe where we are going in the class to give their learning a context.

Learning Outcomes and Learning Styles

All of the work I do with any class is based on learning outcomes. These are specific knowledge requirements that range from simple definitions to more complex analysis, synthesis and appraisal. Often first year students, as well as others, ask "What is going to be on the test or quiz?" The learning outcomes answer these questions. I do spend time talking about the meaning of learning outcomes and how they can be used. However, all of the requirements for demonstration of knowledge are described in the wording of the learning outcomes.

The learning outcomes lead to a clear understanding of what is expected in order to demonstrate knowledge and competence. I challenge my students to determine how best they learn. Part of this experience is to ask students to go to the VARK website (<http://www.vark-learn.com/english/index.asp>) to determine their learning styles. Once they have done this, they are ready for the last step in the process to maximize their ability to demonstrate their knowledge.

First year students [and others] feel empowered when they understand how they learn best. This translates into better study habits and higher grades in various assessment tools. I offer my students another option. They may contract with me to choose the percentage of their final mark for a particular assessment tool (e.g. test, paper, field trip, and journal). By knowing their learning style(s) and making the appropriate selection of percentages they can then potentially achieve a higher grade.

Discussion, Reflection, Connection and Analysis

Almost all of my students have enjoyed the challenge of learning something new. Part of this journey to understanding has been through reflection and connection. Through my choice of test questions, study group assignments and course journals I try to emphasize the importance of reflection about the meaning of their learnings and of connecting their learnings to events in the world and their life experiences. I often will say that knowledge is not as important as what you do

with it. Learning how to think (analyze, synthesize, reflect, connect and appraise) is just under the surface of the course.

I emphasize the fun of the learning and the interesting facts they will learn. I also tell the students they will need to reflect and connect throughout the course. First year students are often lost in this fog of new words and concepts. I talk with them to allay their fears and help them focus.

Self-Discovery through Course Journals

Everyone is expected to keep a course journal. The purpose of the journal is to provide a means to self-discovery about learning. First year students find this a chore that they often don't like. Usually they begin to appreciate the value of a journal and see how it helps their learning. Journals often act as a mirror into a student's mind. Since only the student and I read the journal, many will tell me how they are learning, where the difficulties are and how they feel about their learnings. I learn a lot about myself and my teaching style as well as my students.

First year and other students will describe how they feel about an event in class, a particular lecture or group experience. As they do this they must have thought about the subject and therefore they are reflecting and learning.

Positive Feedback and Feedback

Students, in my experience, want to know how they are doing. They especially want to know if they are on the 'right track.' Positive feedback informally or formally provides this guidance and encouragement. First year students need this perhaps more than others. I always spend time writing comments and answering questions on tests, assignments and journals. This is a nice way of communicating. Many times reflection to my comments ends up in their journal entries. After each group presentation I thank them for their effort and give them a brief review of the positive aspects and the areas needing improvement.

Having Fun

Doing 'crazy things,' asking questions and listening to answers and comments brings me closer to the class. They know I want them to succeed. They also know that they must work; the courses are not 'free lunches' to an A.

Summary

What makes the best practices in teaching first year for me? Broadly speaking, my answer is showing an interest in students, challenging them to reflect and think, de-emphasizing 'traditional' cramming for learning, providing a way to model learning, and finding ways to make learning fun.

Roxanne Richardson, Environmental Studies

Learning from Mistakes

What motivated me to change my teaching practices so dramatically over the past few years?

1. Students were not doing as well as expected in the course.
2. Attendance rates dropped throughout the term.
3. Students looked “bored” in the classroom.
4. Many students never looked up. They were too busy trying to copy down everything that I wrote, showed, or said.
5. Participation rates were low and only 4 or 5 students (out of about 60-70) regularly responded to questions.
6. Answers to exam essay questions were poorly written and indicated that while students memorized facts they had little “understanding” of the course material.

I interpreted many of the following observations as symptoms of classroom discontent/student disengagement. Since one of my main goals as an instructor was to try and make first year students more enthusiastic about science, I knew that, for the most part, I was failing. Change was necessary.

What needed changing?

1. Evaluating student progress

My approach, when I first started teaching a science course for non-science students, was to assign one midterm, one exam and one major paper. This practice is quite a common one but I found that it was not a recipe for success with first year students. It often reduces the amount of marking, but students in first year classes find out too late if they are not doing well.

Midterm Exam

It is not a good idea to wait until the semester is half over to find out how students are doing in a course, Students often do not realize that they lack a good grasp of the material. If they don't find out until mid-semester, it may be too late for them to make changes to do better. Furthermore, if the papers are not marked quickly, it may be too late for students to withdraw without academic penalty.

Term papers:

I thought that individuals in a first year Science class for non-science students would enjoy the opportunity to explore a topic that intrigued them. Initially, I assumed that Arts students knew how to write a paper, cite sources, and avoid plagiarism. I naively believed that they would spend a considerable amount of time deciding on their topic and then researching it. I frequently reminded students to come and discuss potential topics and indicated a willingness to comment on outlines, or read drafts. One student out of 65 came to see and the majority of

the class appeared to have written the paper on the last night without sufficient citations or editing. I found out very quickly that if a paper is assigned you need to devote class to teaching students how to write the paper and then require them to submit the paper in stages, with marks assigned to each stage.

2. Lecture format

When I first started teaching, I regularly used to see students fall asleep in my classes. Since the instructors that had taught me had all used lecture format (“sage on stage” model), I thought that I should follow their example. However, students today are used to multi-tasking, and many find it too challenging (or boring) to listen to someone talking more or less continuously for 75 minutes. We have to “work with the students we have”, not the “ones we would like to have”. While there are exceptions, the typical student at university today is not a high achiever or highly motivated. Many tend not to learn well in a “traditional” classroom.

Current approach

1. Learn the names of students to increase their sense of “belonging” in the classroom.

Some instructors are able to remember student names without difficulty. However, I have a terrible memory for names, but I know that I am always pleased when someone remembers mine. I used to return papers and try to make an effort to remember the face that matched the name but, by the end of the year, I was still only able to remember about 40% of the students’ names in my class.

I now take pictures at the beginning of term with the consent of each student. Each holds a piece of paper with their name written in marker. I “study” the faces/names before every class. I try to make a point of addressing as many students by name as my memory will allow. This practice also gives students in the class the opportunity of learning the names of their fellow students.

2. Contact students who miss tests, assignments, and midterms

If I notice that a student has missed a major assignment, quiz, or midterm, and they have not contacted me, I send them an email. By doing this, the students become aware that their absence is noticed and that I care enough to take the time to contact absentees. It also provides students with the opportunity to mention problems they may be having. I can then direct them to the appropriate resources on campus.

3. Mid-semester feedback

At the half-way point in the semester, I ask the students to complete three questions related to the course (what is working well, what is not working so well, and what they would like to see improved). This feedback is anonymous, and before the next class I summarize the results and present them to the students. Some things are not possible to change, such as the room or the timeslot in which the class is held. If there is a recurring theme (too much PowerPoint, too much /too little discussion, etc.), I let the students know what I am willing to change, what I am

not willing to change and why, and what I will incorporate from their suggestions. I find that this feedback is extremely useful and some of the suggestions I receive motivate me to introduce new teaching strategies into the classroom.

4. Use early and continuous feedback (spot quizzes, mini-assignments, five-minute papers)

One or more of these is held on a weekly basis and frequently students are permitted to work in groups. This approach gives students the opportunity to discuss the material and enables weaker students to learn from others in the group. Each individual is able to self-evaluate. They are able to determine early in the term whether or not they understand the material. Students can then make an informed decision about dropping the course, attending extra help sessions, or looking for advice on how to improve their performance.

5. Provide opportunities for students to learn from their peers.

For major class assignments, groups are assigned (based on student performance and the year of study). Even though my course is a first year one, about 20 percent are in second, third, or fourth year. I assign a group leader, explain what I expect of each group, and circulate with my TA throughout the class period. Students are encouraged to ask questions and are asked, as part of the assignment, to record opposing views, areas of uncertainty, and recommendations (in assignments that involve case studies or problem-based learning).

6. Make the classroom more interactive

My first change in this area was to introduce active learning techniques. I started out slowly with short share/pair activities and found that students were delighted to have the opportunity to discuss a specific issue for a few minutes. I would then ask random groups to give me feedback and found that I was able to identify the concepts that were confusing or ones that were understood. If one concept builds on another, it is too late to find out in the midterm that the earlier concepts were not understood.

The literature on best practices in teaching indicates that student-teacher interaction helps to increase student engagement. Many of the other techniques that I now use in the classroom are easy to employ (group work; panel discussions; debates; case study analysis; problem-based learning, in-class experiments, etc.). Using these has dramatically increased my enjoyment of teaching in the classroom and this year, to date, only one student has fallen asleep. She apologized and said that she had worked a night shift before coming to class!

7. Draw parallels from the classroom to the real world.

While it is necessary for students to understand the language and concepts of a particular course, it is also important for students to relate matters to the real world. Instead of presenting them with numerous case examples, I often break the class into groups to see if they can find parallels between what we are studying and what they have seen/experienced in their lives. This is a much more interesting approach for both instructor and students. The groups then report back and lively discussions often ensue.

Eric Lee, Finance, Management Science and Information Systems

CODE OF CONDUCT

Everyone else’s learning suffers if you don’t behave professionally in class. Unprofessional behaviour may result in verbal or written warnings or immediate expulsion from the course.

Attendance

1. Attend all classes. Topics in statistics are interrelated, so if you miss only one or two classes your grades will suffer. It takes as much time to cover material for an individual as it does for the whole class. Therefore, while class attendance is not mandatory, your instructor will not have the time to review with you material covered in classes you missed.
2. Arrive for class on time. Arriving late disrupts the class and the professor’s teaching. After the first class, late arrivals will not be accepted.
3. Stay till the end of class. Leaving before the end of class disrupts other students in the class. If you must leave class early, ask your instructor for permission before the class starts.

Class Participation

1. Participate in class activities. Learning statistics requires solving problems. You are expected to solve problems in every class. Bring a calculator, statistical tables, and equation sheets to every class.
2. Show respect for others. The best way to learn statistics is by asking and answering questions, solving problems, and helping other students solve problems. However, this is only possible if you make others comfortable voicing their ideas and respect others’ views.
3. Be courteous: Class discussions are informal. However, students are expected to be courteous and not talk when others, including the instructor, are talking to the entire class.

Cheating and Plagiarism

Cheating and plagiarism are unacceptable. (See Regulation 19 in the Academic Calendar.)

I understand and agree to behave in accordance with the code of conduct outlined above.

Date _____

Print Your Name _____

Sign Your Name _____

Student ID Number _____

KEY COMPONENTS TO MY METHOD OF TEACHING

In the very first class, I always tell students that I do not teach introductory statistics (or whatever other subject I am supposed to be teaching). If I teach anything, I continue, it is alternative methods of learning how to learn. Instead, I warn them that they will have to learn how to teach each other if they are going to get through my course. I also caution them that, if they stay in my class, they will have to work much, much harder than they would if I were to lecture every class. There are, however, several benefits. First, they may learn new, more effective ways of learning. Second, they may learn that learning can actually be a lot of fun. Unlike trying to memorize one's notes or the textbook, my methods require they learn how to socialize with others in the class. Careful study of the text and one's notes are important, but true learning only comes, I assert, from discussing a topic in depth with other students and teaching others aspects of the topics they don't understand. Some key elements of my "teaching" style are discussed briefly below.

1. **Problem-based teaching.** Most time in class is spent solving real-life problems taken from my own experience (albeit often in somewhat simplified form). I minimize the amount of lecturing that I do in class. I lecture a little at the beginning of the course until they begin to understand my "weird" method of "teaching" and then rapidly reduce the amount of lecturing in each class. By the fourth or fifth class, I am spending little to no class time using the traditional lecture method of teaching. This approach focuses student attention on the importance of knowing theory before they come to class in order to solve real-life problems that are presented in class.
2. **I don't teach; my students teach each other.** My philosophy of how one should teach is based on several key ideas:
 - (1) **Student engagement.** In traditional classroom teaching, most students are disengaged because the method encourages passivity rather than active engagement (which I believe is essential for effective learning). Moreover, simple note taking in every class encourages the wrong kind of learning. It is true that a good set of notes, when memorized, can be effective in helping students learn key concepts, but this passive learning process encourages students to accept without thinking whatever the professor says in class. Many students become engaged in my classes because they must (a) speak to their fellow team members and (b) they must jointly solve a problem in class. The class problem(s) is typically based on a real-life personal experience of mine (but carefully chosen to possess important characteristics to illustrate important ideas, theoretical foundations, and analytical methods as well as to put their learning in proper perspective). I also repeatedly demand that they get to know their teammates personally and by name and that they also spend 50% of their time in class socializing (an important business skill) though, in practice, they spend very little time talking about non-course subjects (typically less than 10-15% of total class time).
 - (2) **Students know better than professors how to explain ideas to other students.** Students use a language appropriate for their audience when they explain to other students how to solve a problem. This is not always the case with professors who often do not speak the same language. For example, I once attended another professor's statistics course in another university. At the beginning of the first lecture, all the students around me were

excited, talking to each other about the course. Then within the first two minutes of the lecture, the professor used over 50 complicated, undefined mathematical terms that only a top graduate student would have been able to understand (I counted them). Without exception, all the students around me closed their note books and just looked at each other since nothing could be learned. Similarly, when I first taught introductory statistics, I once spent 10 minutes giving a scintillating talk on a difficult concept thinking I had done a magnificent job. One of my good students did not, however, understand. I tried six times to explain what was meant and each time failed miserably. I asked if anyone knew what his problem was. The girl behind him tapped him on the shoulder and spoke a single line of explanation. He (and half the class who had also not understood) immediately understood what I had been trying to say for the past 30 minutes. Students know better than we do how to explain difficult ideas and methods to their compatriots.

- (3) **The student doing the explaining benefits the most.** Two people benefit when one student teaches another student a concept or method of solving a problem. Perhaps counter intuitively, however, it is the person doing the explaining who benefits most. Why is this? To explain clearly enough to get another student to understand, the explainer must rethink the concept or method they themselves have just learned if they are to succeed in getting the other student to understand. This second and third rethinking of an important idea plus the active, social discussion required facilitates achievement of a deeper level of understanding. This is evidenced by the hesitation that students display when asked to explain to other students how to solve a problem or what the meaning of some complex concept is. Invariably when asked why they hesitate before starting their explanation, these students assert they must think hard about the topic or issue if they are to be effective in explaining to others. Students who learn to teach others effectively also benefit by achieving an increased sense of personal confidence and competency as well as a deeper understanding of how one can learn in the real world (that is, outside university). Student teachers often say that they thought they understood a topic until they had to explain it to another student. After explaining a topic to someone else, however, they often achieve a much deeper level of understanding than they had before and retention is greatly increased.
- (4) **I use the “snowball” method.** After presenting a problem to be solved by student teams in the class, I circulate around listening to different teams. No team can be considered to have solved a problem successfully unless all members of the team can answer any and all my questions about how they solved the problem and what it all means in plain simple language. When I find a team that has solved a given problem and understands the issues, I ask individuals from that team to help other teams that are struggling or that have questions they want me to answer. I don’t answer most students’ questions when they are working in teams (though afterwards, when we are discussing the solution as a class, I try to answer all their questions.)
- (5) **Learning by working in teams in class fosters productive learning in team settings outside the classroom.** I actively encourage my students to get together outside of class each day to talk about what went on in class that day. I see many of them meeting outside of the classroom in the many small seminar/study rooms scattered around the Sobey and Loyola buildings. Many of them report that they have found this to be, while unusual and non-traditional, a very effective way to learn. Though I had two of the best mentors one could have as an undergraduate, I learned more from having intense but fun discussions

with other students. (Dr. Brian Little won the award for top Canadian university professor a few years ago while Dr. Alex Bavelas, the youngest full professor ever at MIT and a professor in both Psychology and Business at Stanford and in three departments at UVic -- Psychology, Public Administration, and Education, was even better.)

(6) **Discipline.** Students cannot learn in the classroom unless there is some discipline. Unless disciplined, students today frequently walk in and out of class while it is in progress (thoroughly disturbing all those trying to learn), send text messages or answer cell phones, fall asleep, or talk loudly and intrusively while in class. Though I do not insist on attendance at every class, I do insist that students who show up for class show respect for others by refraining from such disruptive activities. (I refuse to help any student who misses any class unless they obtain a copy of someone else's notes from the missed class, study the missed material in those notes and the text, and talk with some other student from the class. Only then am I willing to assist such absentees.)

3. **Use of "low-tech" technology when teaching.** I never use overheads, PowerPoint, clickers, or computers when teaching in the classroom. (Technology such as overheads and PowerPoint slides can, if inappropriately used, encourage bad teaching habits such as putting too much information on a slide or overhead and flipping to a new slide or overhead so that students do not have adequate time to absorb the information on a slide or overhead. Of course, technology properly used can be effective.) Instead, I use "low tech" equipment such as classroom "blackboards" and "chalk." This forces me to go at a speed appropriate for most students, and it permits a far more variable approach to what is covered in each class. It also forces me to reconsider how best to achieve my objectives in each class. Since I cannot rely on slides, I am forced to ensure that I truly understand the concepts I am to teach each day.
4. **Team-based learning.** See above.
5. **Focus on the most important ideas, methods, and concepts** required for students to operate relatively effectively in the real world. Many professors concentrate on ensuring that they teach absolutely every detail about their topic, no matter how trivial. In contrast, I focus on spending almost all of my class time teaching the 95% of the course which is most important (both for use by students in future courses and for use in the real world to help make tough business decisions). I aim for understanding and mastery of the essential ideas in a course, not the trivia which can be easily learned once the primary material has been understood. This enables me to make really sure that the majority of the class truly understands a difficult subject at a deeper level than they would otherwise. Less important material is never covered in class. Students are responsible for covering on their own the less important and less useful aspects of statistics. Exams reflect this same ratio of marks (in other words, I never give exam questions worth a lot of marks on trivial topics and never give trick questions. Exams are designed to have both face validity and content validity.

6. **Students are treated with respect.** I insist that students treat me and each other with respect, but reciprocally, I treat them with respect. I encourage students to work and help each other and not to voice judgmental opinions about the stupidity of others.
7. **Class preparation time is focused, not on content but, on how the class should unfold.** I certainly spend a lot of time thinking about what content should be delivered, but most of my preparation time is spent thinking about all aspects of how the class might unfold and how I will handle many different changes in direction that might be required depending on the questions students ask in class. This means that I do not just prepare for delivering a single class of content, but I typically prepare for two or even three classes.
8. **I use no notes.** To keep the class functioning dynamically and with a natural rhythm, I use no notes in class. This means that I need to know in advance of each class what important concepts, theories, or methods that I want to impart and then simply ensure that I succeed in accomplishing those aims in a spontaneous manner in each class (sometimes a few objectives must be put off until the next class).
9. **Students are encouraged to talk to each other in class.** Since I don't teach, the students must talk to each other in class. This encourages student excitement and interest both in the topic and in learning.
10. **Knowing student names.** I try to learn the names of all students who come to class by the end of the course. I only learn first names. To facilitate this, I get students to print their first name on a folded sheet of paper which can then be propped up in front of them during each class. This is a good way to show that each student, even in a very large class, is an important individual. This is a great motivator. It also helps students learn the names of others in their class which can foster more intellectual discussion and learning outside of class.
11. **Teaching learning how to learn.** I spend very little of my in-class time lecturing or teaching the content of the course I am supposed to be teaching (intro business statistics – the most hated subject in areas such as biology, education, psychology, and business). Instead, I spend a lot of time trying to achieve several quite different objectives:
 - (1) Exciting students about learning.
 - (2) Exposing students to alternative ways of learning (meta-learning).
 - (3) Encouraging students to work together in small teams (3-6 students in each group) which I have found to be a highly effective way of facilitating learning.

STUDENTS TEACHING STUDENTS

What are my best teaching practices? This is a difficult question for me to answer given that I no longer teach my students. Long ago, I learned that I was a frighteningly boring lecturer.

I had just delivered a scintillating 10-minute lecture on a difficult concept in my introductory course in statistics. Somewhat surprisingly, one of the better students in the class said he did not understand and could I please explain a little more clearly. Somewhat taken aback, but quick off the mark and with great finesse, I explained in detail and in a completely different way, the meaning of the concept. Having answered the question, I was now ready to move on. But just as I was about to launch into the next topic, I glanced at the student and noticed that he still looked puzzled. He still did not understand. So I tried again, and again. In total I tried six different ways to explain the concept, all to no avail. Finally, in complete exasperation, I asked the class if anyone could help. A young woman a few seats away turned around and uttered a single sentence. The questioner (and the rest of the class) understood immediately what I had just spent over 25 minutes trying to explain.

What lessons did I draw from this interaction? First, my students are not stupid. They simply see the world (of statistics) through a different pair of glasses than I do. Second, students can be better teachers than I can ever be. Why? Because they know what difficulties other students will have (because they have just overcome those same difficulties themselves) and they know how to explain in plain simple language that the other students will understand. Third, students pay a lot more attention when I let them teach each other.

What effect has this had on my teaching? I now spend little time lecturing. Instead, I give the class a problem to solve and then I get students to help each other (i.e., to teach each other). I find someone who understands how to handle a class problem and get them to help others in the class. The students who have just been helped by other students must in turn be prepared themselves to help still others in the class. Once everyone has solved the problem we discuss it together. I use this opportunity to answer further questions and, since students now have some understanding of the concept, I can use my time to more easily introduce complex theoretical issues in the context of the problem we just solved. I no longer teach (i.e., lecture), instead I try to help students teach each other.