

ENHANCING THE PRACTICE OF TEACHING AND LEARNING

JANUARY

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CHAOS AS A METAPHOR FOR TEACHING BY CARL DOIGE

I have often wondered why two sections of the same course can “feel” so incredibly different – that is, a lesson with one class which appears to generate interest, student participation, and laughter results in a complete flop with another group of students. I have also wondered why my attempts to implement teaching strategies reported in the literature do not always result in the same outcomes as described in the study. The more I have come to know about learning and teaching, the more I have come to believe that these are very complex processes.

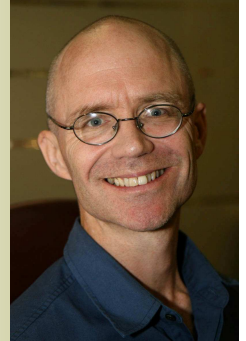
Moseley and Dustin, in their article “Teaching as Chaos”, propose that chaos theory may provide a valuable metaphor for the student-learning process – which they too claim is indeed a complex process and which they describe as “... inherently fluid with unpredictable results occurring along the way”.

The scientific description of

chaos theory relates to the thought that two similar starting points can give rise to dramatically different outcomes. This is connected to the now famous idea that the flapping of a single butterfly’s wings may (or may not) result in some large phenomenon such as a typhoon off the Indonesian coast.

Teaching as chaos is a useful metaphor on a number of accounts. For one, it helps an instructor come to an understanding of the complexity of a classroom experience. Secondly, the metaphor allows the instructor to consider their teaching effectiveness from a new perspective:

“...expecting straightforward, linear relationships in learning may not be realistic. Chaos theory tells us that significant learning outcomes may not be practically predictable. Little things professors do or say or model may end up having very large effects, but such effects are likely



Carl Doige is the “Fellow” for Science

to be largely unforeseen.”

This metaphor also connects to the importance of instructors persistently supporting students towards their learning goals:

“...a student who may seem to be struggling at one moment may be progressing incrementally toward a profoundly different outlook that may manifest itself well beyond the end of the course.”

Studies of complex chaotic systems have shown that such systems do indeed have some degree of structure in the form of recursive patterns. Moseley and Dustin suggest that educational research from the metaphorical lens of chaos theory may produce some insight into ways that teachers interact with students to produce meaningful learning.

INSTRUCTOR ATTITUDES AND STUDENT-INSTRUCTOR INTERACTIONS BY CARL DOIGE

In his book, *The Courage to Teach*, Parker Palmer argues that a teacher’s self-knowledge is integral to good teaching. Through this self-knowledge, a good teacher connects themselves to the subject *and their students*.

Palmer states:

“The connections made by good teachers are held not in their methods but in their hearts – meaning heart in the

ancient sense, as the place where intellect, emotion, spirit, and will all converge in the human self.”

The articles, “A curious thing happened on the way to constructivism...” by Sherry Herron and “Instructor attitudes toward students”, by Janie H. Wilson, speak to the importance of instructors being able to connect at the human level with their students.

Herron, in her article, describes an attempt to implement a laboratory program based on constructivist learning theory with an emphasis on cooperative learning, guided inquiry and long term group investigation. An important conclusion emerges from an analysis of the success of this program: the constructivists methodologies are only realized if the instructional strategies are appropriately planned and executed *and* (significantly) if the instructor demonstrates attributes such as empathy, courtesy, and respect for the students.



INSTRUCTOR ATTITUDES AND STUDENT - INSTRUCTOR INTERACTIONS

BY CARL DOIGE

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In support of this conclusion, Herron quotes an earlier study which shows that four of the six characteristics of an "ideal" professor, as rated by first year college students, are related to interpersonal skills: respects students, treats students fairly, friendly/caring, and is interesting.

Wilson, in her study of 39 instructors and 1495 students from liberal-arts universities in the southeast of the United States, examined the connection between teacher's attitudes toward teaching and students and students' perceptions of their instructor's attitude towards

them. This study revealed that a significant number of students can accurately gauge instructor's attitudes.

"Teachers with positive attitudes towards their students were rated by those students as having a positive attitude toward them, being concerned for them, and wanting the students to succeed."

This finding is important because students reported greater motivation when they felt appreciated by their instructor and, in turn, greater motivation is associated with greater perceived learning.

Wilson concludes that because students are capable of accurately intuiting an instructor's attitudes, it is incumbent on a teacher to create and maintain a positive attitude towards students. She states simply: **"A professor's best recourse is to truly like students"**. Wilson recommends that instructors must also take measures to avoid burnout or professional melancholia and points out that instructors, who habitually discuss students negative qualities with peers, are more prone to burnout.

"They won't care how much you know, until they know how much you care"

anonymous

INSTITUTE LUNCH AND LEARN SERIES KICKS OFF

BY ROB KJARSGAARD

The Institute of Leadership in Learning and Teaching is enhancing the practice of learning and teaching by presenting a series of engaging lunch time lectures. The Lunch and Learn sessions all have an educational focus and are free and open to everyone. The long term goal is to have regular Institute Lunch and Learn sessions at each campus of Okanagan College. The starting line up of Lunch and Learn sessions is as follows. Please share this schedule with students, friends and community members

Date	Location	Time	Speaker / Facilitator	Video	Topic
Feb 8	Kelowna Lecture Theater	12:00 to 12:50	Glen Coulthard		Social Media In Teaching And Learning
Feb 22	Vernon lecture theater	12:00 to 12:50	Jane Muskings		"A Global perspective on post secondary education and why what you do counts"
Mar 5	Kelowna Lecture Theater	12:00 to 12:50	Ben Coleman		Happiness Through Character Building
Mar 8	Vernon Lecture Theater	12:00 to 12:50	Glen Coulthard		"Social Media in Teaching and Learning"
Mar 29	Vernon Lecture Theater	12:00 to 1:00	Rob Kjarsgaard	"Tips and Techniques for Classroom Instruction"	Teaching Techniques and Institute Update *Free Pizza
April 7	Kelowna Lecture Theater	12:00 to 12:50	James Coble		Why Diversity Matters

JANUARYS FEATURED LINKS

The Institute For Leadership in Learning and Teaching would like to link you up with some great learning and teaching resources. A full bibliography for the articles cited in this edition can be found on our online version of the newsletter.

Promoting Collaborative Social Learning Communities with Student Response Systems

http://jolt.merlot.org/vol5no4/klein_1209.htm

Are College Students Prepared for a Technology-Rich Learning Environment?

http://jolt.merlot.org/vol5no4/ratliff_1209.htm

The Impact of a Web-based Homework Tool in University Algebra Courses on Student Learning and Strategies

http://jolt.merlot.org/vol5no4/hodge_1209.htm



Check out these links!

THE IMPACT OF ONLINE LECTURE RECORDINGS

BY CARL DOIGE

In recent years it has become relatively easy to digitally record lectures and post the resulting files (often referred to as “pod casts”) on the web for easy download by students. While many educators have adopted this approach, others have expressed concern that such pod casts do not support learning and may discourage students from attending the “live” lectures.

Brian White, in his paper “Analysis of students’ downloading of online audio lecture recordings in a large biology lecture course” addresses a number of questions related to the use of pod casts of his biology lectures. His findings can be

summarized as follows:

Over the period of a one semester course, during which 39 lecture audio files were posted, an average of only 7.2 files were downloaded per student. While most students used the pod casts to some degree, most only listened to a few lectures.

More than half of the pod casts downloaded (61%) were done in the week prior to each of the term tests and the final exam. These data suggest that the majority of the lectures were listened to as part of the students’ preparation for each test/exam

Compared to previous years, the average attendance of “live” lectures during the semesters that the pod casts were available remained unchanged.

Collectively, these results indicate that making lecture pod casts available for students does not seem to impact their attendance of “live” lectures. Further, although not addressed in this paper, the fact that many students accessed the pod casts prior to the tests/exams may have assisted students in their learning of the material.

Nathan Lents and Oscar Cifuentes investigated the effectiveness of “voice-over power points” as a means of delivering essential course content in a first-year biology course. Their study, described in an article entitled “Web-based learning enhancements: Video lectures through voice-over power point in a majors-level biology course”, involved the experimental group receiving some of the lecture material as videos which were made available online. The control group attended only “live” lecture material and did not have access to the online lectures. The performance of the experimental versus the control on each term test and the final were compared.

Notably, the scores in the first term test on questions related to the video lectures were considerably lower for the experimental group versus the control group. This led the instructors to discuss with the students in class if they wished to continue using the video lectures. While some students indicated they had difficulty staying focused or stimulated while watching the videos,



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other students explained that they in fact preferred the video lectures. These students described the following advantages:

One can pause the video to take notes and then give full attention when the instructor is expanding on a topic or giving examples.

One can pause the video and refer to the textbook for further explanation.

One can view the video (or certain sections of the video) several times.

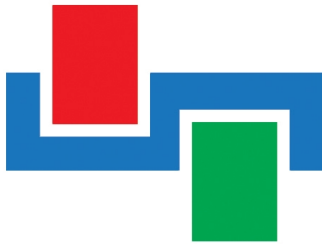
Following this discussion, all students in the experimental group agreed to continue with the video lectures. Interestingly, all of the remaining term tests showed no differences in the scores between the experimental and control groups. The authors conclude that **lectures delivered as web-based videos are an effective method to support student learning, provided that students are active and attentive in watching the videos.**

We are on the Web!

www.okanagan.bc.ca/about/ILLT.html



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ENHANCING THE PRACTICE
OF LEARNING AND TEACHING

SPOTLIGHT ON SCIENCE ALUMNUS JAMIE POWELL

BY CARL DOIGE

Jamie Powell is a third year Biochemistry Major (with a medical focus) at UBC-O but he completed the first 60 credits of his degree at the Okanagan College. Starting his university career at the college allowed him access to a large number of bursaries and scholarships that were only available to college or college transfer students. Jamie excelled in his courses at the college and therefore was awarded the Award for Excellence - Associate of Sci-

ence Degree 2009, the Irving K. Barber Transfer Scholarship 2009, and the President's Entrance Scholarship 2009-10. Concerning the college, Jamie stated: **"The transition to the university was fairly smooth and simple ... the choice to go to college for my first two years was the best choice that I could have made."**

In addition to taking courses, Jamie currently works as a research assistant in the laboratory of Dr. Klegeris. His research project is concerned

with constructing an accurate model of neurodegeneration in cases such as Alzheimer's disease. This model can be used by pharmaceutical companies to test possible drugs. Jamie is applying for the NSERC Undergraduate Student Research Assistantships (USRA), as well as the Barber School Undergraduate Research Award both of which will allow him to pursue an original research idea over a sixteen week period this summer.



Jamie Powell Biochemistry Major and Alumnus of Okanagan College

