TEACHING AND LEARNING
ABOUT TEACHING AND
LEARNING:
UBC’s graduate course in evidence-based pedagogy

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OUTLINE

• Course design
• Large group sessions
• Small group sessions
• Impact on beliefs about reformed teaching practices
• Impact on self-efficacy and instruction
• Future plans
COURSE DESIGN: “TEACHING AND LEARNING IN EARTH, OCEAN AND ATMOSPHERIC SCIENCES”

- Educational theory and practice
- Graduate course
  - Masters and PhD students in EOAS
  - 100+ students in the 10 years it has been offered
  - Previous students become facilitators
- Two-thirds of a full course credit
- Modeled after the Instructional Skills Workshop (ISW; www.iswnetwork.ca)
- 7 alternating weekly sessions:
  - (4 x) Large Group
  - (3 x) Small Group
COURSE LEARNING OUTCOMES

By the end of this course, participants will be able to:

• Effectively evaluate peers and provide constructive feedback
• Create an environment conducive to learning for diverse groups of students
• Develop strategies for fostering student inquiry and independent learning in Earth, Ocean and Atmospheric Sciences while meeting students’ need for support
• Formulate learning objectives for TA-led activities in Earth, Ocean and Atmospheric Science courses
• Engage in critical reflection on one’s own teaching practice
• Design and implement mini lessons and lab assignments for Earth, Ocean and Atmospheric Science courses using the frameworks provided in the course
LARGE GROUP SESSIONS

• 2 hours each
• 3 x 30 minute lessons
• Model student-centred practices
• Example topics:
  • Learning objectives
  • Marking and rubrics
  • Challenging classroom situations
  • Equity and inclusion
• Formative feedback each session

n = 8-10
SMALL GROUP SESSIONS

• ~4 hours each
• Participants practice instructional techniques
• Topics open, avoid content fixation
• Mini lesson ‘cycles’ (40 minutes each)
  • Up to 10 minute set up
  • 10 minute lesson delivery
  • 7 minute written feedback
  • 13 minute verbal feedback
• Peer feedback driven, facilitators do not provide feedback
• Time for reflection in between sessions
IMPACTS: BARSTL SURVEY

- Beliefs About Reformed Science Teaching and Learning (Sampson et al., 2013)
- Collected 2015/16, n=88
- Students who had taken the course:
  - Scored higher than those who had not (p=0.06)
  - Scored significantly higher on the section “how people learn about science” (p=0.03)
- Students scored significantly higher after taking the course (p=0.005)
- PhD students scored significantly higher than Masters students (p=0.004)

IMPACTS: SUMMATIVE EVALUATIONS

• Collected 2008-2016
• Students reported higher confidence in teaching abilities after taking the course
• Emergent themes on reflective questions about teaching and learning (n=48):
  • Increased emphasis on student centered teaching
  • Application of techniques
  • More self-directed approach to own learning

“I feel more at ease now when thinking about teaching. I’ve realized it’s not a life-or-death situation!”

“I think that is the #1 benefit. I am more aware of my own learning habits and now have the toolbox to modify my own learning.”

IMPACTS: TEACHING ASSISTANT AWARDS

• 11 department-wide Outstanding Teaching Assistant Award winners
• 3 university-wide Killam Graduate Teaching Assistant Award winners
  • All took and/or co-facilitated the course
FUTURE PLANS: THIS COURSE AND BEYOND

- Move up to a full credit course
- Adopt a more active recruitment approach
- Impact more department teaching assistants by expanding TA training offerings
  - About 80 per year in the department
  - Apply some of the key principles to a shorter format
- Build a more formal teaching and learning graduate student community
FUTURE PLANS

Objectives:
- describe the purpose of a teaching statement / relationship to teaching portfolio
- reflect on your own teaching approaches, beliefs & experience

your portfolio is due: 19 November 2018

Qualities
- takes students seriously
- humorous
- easy to talk to
- interactive
- a friend first (caring, supportive)
- organized
- teaching topics unrelated to the subject (open classes)
- patience of a saint

Questions to help build your statement:
- Why is teaching important to you?
- What is one of your “personal best” achievements as a teacher?
- What do you find most challenging as a teacher?
- What is your main goal with respect to student learning?

Teaching Statement
- evolved with you
- helps you reflect on your own practice

May also be
- used to apply for academic jobs
- used for promotions and tenure

Teaching portfolio
- part of a

Living document
- teaching statement

Experience
evidence
approaches
beliefs
grounded in evidence

Start now
Don’t wait
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