Science Education Open House 2015
CWSEI End-of-Year Event

9:30 - 11:30am Morning Session Warren Code: *Overview* Carl Wieman: *New ideas for how to evaluate and improve your teaching* Faculty Panel: *Workloads and benefits of course transformations*
11:30am - 1:30pm Lunch & Poster Session
1:30 - 3:30pm Workshops (here and ESB 5104)

Carl Wieman Science Education Initiative

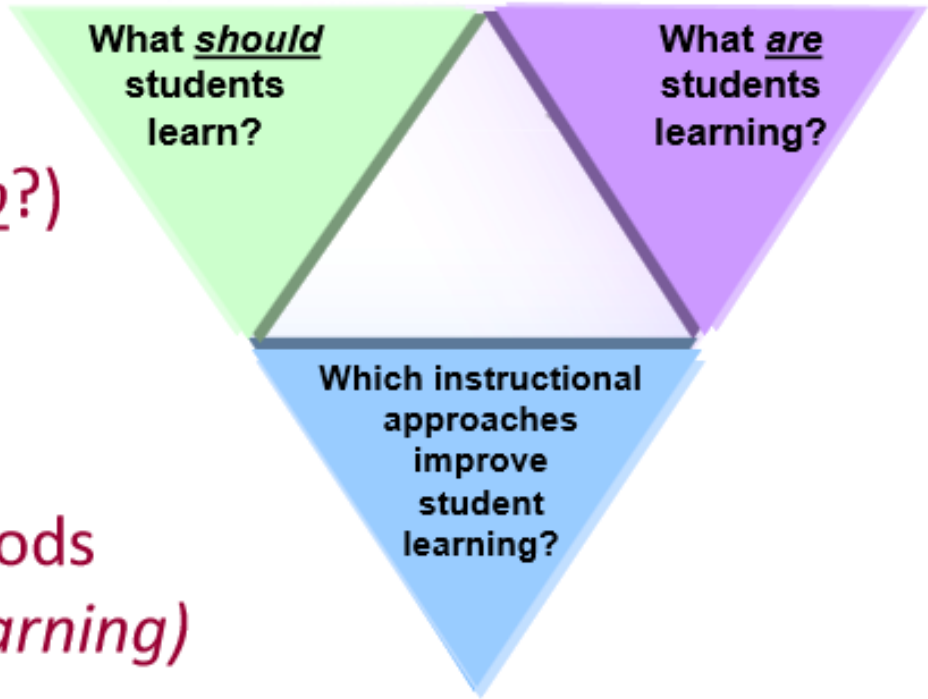
Started 8 years ago ⇒ goal is widespread improvement in science education at UBC, focusing on department level.

CWSEI "Trinity" for each course

1st: Learning goals. (what should students be able to *do*?)

2nd: Good assessment

3rd: Improved teaching methods
(research based, improve learning)



CWSEI influence at UBC

About 100 "Transformed" courses, plus ~50 more with some CWSEI and/or SCLT influence

40% of "seats" are in Transformed courses; 67% in courses with at least some changes (both up about 3% over last year)

In almost all cases, methods are still in use in these courses, even though many projects finished years ago.

CWSEI and extension

- “Original” CWSEI funding still in four depts/programs for at least another year.

- **John & Deb Harris** donation, partnership with Faculty of Science and departments to fund STLF work and paired teaching in EOAS, PHAS

Other initiatives in Science

- **Flexible Learning**: projects large & small
- **Vantage College**: first cohort started Fall 2014
- **Bay View Alliance**: CWSEI success as a model for other universities; interview visit to EOAS last Fall & “Faculty Teaching Practices Survey”
- **David Cheriton**: new donation for course development: Computational Thinking

Chemistry

STLFs: Elizabeth Gillis, Jane Maxwell, Kerry Knox (to York Dec 2014)

FLTLF: Amanda Musgrove

- Lab courses: lots of activity
- Two-stage *reviews* (not exams)
- Who becomes a Chemistry major?
- Flexible Learning: transforming 1st-yr courses

Computer Science

STLFs: Jessica Dawson, Hassan Khosravi

- “Mechanical TA” software for peer review
- Looking at ways to measure systematically across department: Foundations of Computing Concept Inventory, Computing Attitudes Survey, COPUS

Earth, Ocean and Atmospheric Sciences (EOAS)

STLFs: Tara Holland, Sarah Bean Sherman
FLTLF: Francis Jones

- Paired teaching study
- Flexible Learning: bringing classroom-based active learning to distance education
- Writing up the CWSEI experience, including major data collection in 2013-14 and focus groups with most of department as part of study last Fall

Life Sciences

STLFs: Megan Barker, Lisa McDonnell, Tammy Rodela, Natalie Schimpf; FLTLF: Erica Jeffery

Also Martha Mullally, Malin Hansen, Laura Weir who left in 2014

- Study of teaching across the Biology departments
- Research studies
- Flexible Learning: transforming 1st-yr courses

Mathematics

STLFs: Kseniya Garaschuk, Sandi Merchant, Wes Maciejewski (to NZ Jan 2015)

- Diagnostic testing
- Exam difficulty study
- WeBWorK use continues to grow
- Flexible Learning projects: Math Exam/Ed Resources wiki & student guide for calculus

Physics and Astronomy (PHAS)

STLFs: Jared Stang and Linda Strubbe

Many projects going on with the
PHAS Education Research group: PHAS-ER

- Paired teaching study
- Major lab reforms in first year
- Learning Catalytics compared to iClickers
- Flexible Learning: distance labs, students as producers
- And more . . .

Statistics

- Paired teaching last Fall
- Study of exam difficulty
- WeBWorK use has also grown
- Flexible Learning: Introductory Statistics across campus; mainly planning and building network so far

“CWSEI Central”

- Now based in California, Sarah Gilbert and Carl Wieman maintain their connection and contribute as advisors to the CWSEI

- CWSEI more formally merged with the Science Centre for Learning and Teaching (SCLT)

Summary

- “Winding down” is still not a very accurate description
- Lots of new people (say hi today!)
- Thanks!

What would *you* like to see/do next in your teaching?

Discuss with a neighbour and please let us know about it!

Teaching benefits & workloads during & after course transformations

Faculty Panel:

Costanza Piccolo, Instructor, Mathematics

Ljerka Kunst, Professor, Botany (Life Sci.)

Jackie Stewart, Instructor, Chemistry

Ken Hickey, Assistant Professor, EOAS

- Costanza Piccolo, Instructor, Mathematics
- Ljerka Kunst, Professor, Botany (Life Sciences)
- Jackie Stew
- art, Instructor, Chemistry
- Ken Hickey, Assistant Professor, Earth, Ocean and Atmospheric Sciences

Thanks!

Next: Lunch and posters until 1:30pm

You feedback is much appreciated! See paper forms.

1:30-2:30pm Workshops

- *Facilitating discussion - from small groups to large classes (up in 5014)*
- *Getting the most out of demonstrations and videos in lectures & labs (here in 1012)*

2:30-3:30pm Workshops

- *Collecting your own evidence to focus, improve, & document teaching effectiveness (up in 5104)*
- *Panel Discussion: Practical strategies to maximize productive engagement in class (here in 1012)*

Also happening at UBC

- Flexible Learning Initiative ➡ Flexible Learning
- Teaching & Learning Enhancement Fund (TLEF) ➡ TLEF/Flexible Learning hybrid
- UBC MOOCs: Coursera ➡ edX
- Vovici/Verint Surveys ➡ FluidSurveys
- Vantage College's first students
- Learning Tech Rovers!