2015 Symposium

Scholarly Teaching & Learning in Post-Secondary Education

Friday, November 13, 2015 • Vancouver

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Schedule at a Glance

8:15 – 8:45	Registration
8:45 – 9:00	Welcome
9:00 – 10:00	Opening Keynote: Dr. Eric Davis
10:00 – 10:15	Movement
10:15 – 11:05	Session 1: Strand A & B Presentations
11:05 – 11:20	Movement
11:20 – 12:10	Session 2: Strand A & B Presentations
12:10 – 12:50	Lunch
12:45	*Presenters - "Research Bites" to Theatre*
12:50 – 1:00	Movement
1:00 – 2:00	Research Bites (Strand C)
2:00 – 2:10	Movement
2:10 – 2:35	Research Bites Networking Time
2:35 – 2:45	Movement
2:45 – 3:25	Closing Keynote: Teresa Dawson
3:25 – 3:30	Closing Comments

Graffiti Wall: We would like to encourage everyone to contribute to the questions on the poster boards (by Registration Desk) putting an X on the continuum lines and answering the questions. It contributes to the closing keynote.

Photos: Please note that photographs will be taken today and posted on the Symposium website and FlickR account for BCcampus. If you wish to be excluded from photos please notify the photographer or send an email to tracy@bccampus.ca

Time	Activity	Room
8:15 - 8:45	Arrival and Registration *(Light Breakfast)*	Concourse
8:45 - 9:00	**Welcome**	Fletcher Theatre
9:00 - 10:00	**Opening Keynote**: Dr. Eric Davis, Provost & Vice-President Academic, University of the Fraser Valley The Revolutionary Potential of SoTL: How it Can Help Us Complete the Paradigm Shift from Teaching to Learning	Fletcher Theatre
10:00 - 10:15	*Movement to Session 1*	
10:15 - 11:05	**Session 1 - Strand A & B Presentations**	
	1. **From Barriers to Breakthroughs: Student Experiences of a Deliberately Transformative Learning Environment** (A) *Brigitte Harris, Royal Roads University*	1. Theatre
	2. **The Big Picture: Developing Vocabulary and Grammar to Share SoTL Projects and Identify Evaluation Patterns** (B) *Ido Roll, Andrea Han, Adriana Briseno-Garzon, University of British Columbia*	2. Segal 1400
	3. **Integrating Metacognitive Curricular Interventions into the Undergraduate Curriculum** (A) *Peter Arthur, University of British Columbia Okanagan*	3. Segal 1410
	4. **Using Moodle to Facilitate Learner Planning for Collaborative Work** (A) *Mariel Miller, University of Victoria*	4. Segal 1420
	5. **Work Integrated Learning (WIL): Strategies for Any Class** (A) *Linda Pardy, University of the Fraser Valley*	5. Segal 1430
	6. **The Awkward "R": Addressing Issues of Race and Racism in the Classroom and the Institution** (A) *Satwinder Kaur Bains & Sharanjit Kaur Sandhra, University of the Fraser Valley*	6. Room 1500
	7. **Life's a Lot Like Jazz - It's Better When You Improvise** (A) *Sherrill Rutherford, Vancouver Island University*	7. Room 2200
	8. **Games in Class: A Case Study of Gamification in an Undergraduate Communications Course** (B) *Jaigris Hodson & Rob Bajko, Royal Roads University*	8. Room 2280

	9. **Replacing Bloom with the Medicine Wheel** (B) *Marcella LaFever, University of the Fraser Valley*	9. Room 2520
	10. **Enhancing Campus Wellbeing through Evidence-Based Projects: The Impacts of Increasing Student Empowerment, Engagement, and Social Connectedness** (A) *Karen Smith, Natasha Moore & Kelly White, University of British Columbia*	10. Room 2540
11:05 - 11:20	*Movement to Session 2*	
11:20 - 12:10	**Session 2 - Strand A & B Presentations** 1. **Direct Instructions (DI) vs. Productive Failure (PF) Best Practices for Interactive In-class Activities** (A) *Sunita Chowrira & Karen Smith, University of British Columbia*	1. Theatre
	2. **EAL Writers as Peer Reviewers: Challenges and Opportunities** (B) *Amanda Goldric-Jones & Shauna Jones, Simon Fraser University*	2. Segal 1400
	3. **Preparing Students for Self-Directed Learning** (A) *Gail Hammond & Alice Cassidy, University of British Columbia*	3. Segal 1410
	4. **When Computers Meet Biology** (B) *Mila Kwiatkowska & Joanna Urban, Thompson Rivers University*	4. Segal 1420
	5. **Investigating the Effectiveness of a Partially Flipped Classroom on Conceptual Learning and Engagement** (A) *Mala Fernando & Brigit Schwarz, Simon Fraser University*	5. Segal 1430
	6. **Moving from a Traditional to an Inquiry-Based Teacher Education Program: One Instructor's Experience** (B) *Teresa Farrell, Vancouver Island University*	6. Room 1500
	7. **Putting My Spin on It: Tinkering with An Online Post-Secondary Course** (B) *Julia Hengstler, Vancouver Island University*	7. Room 2200
	8. **Role-Playing Exercises for Student Engagement in Science and Technology** (B) *Laura Forni, Daria Capostagno & Fabio Campi, Alexander College*	8. Room 2280
	9. **Comparison of Faculty Practices and Perceptions with Respect to Time Spent Lecturing** (A) *Gülnur Birol, Adriana Briseño-Garzón & Andrea Han, University of British Columbia*	9. Room 2520

12:10 – 12:50	**Lunch**	Main Segal Rooms
12:50 – 1:00	*Movement to Theatre*	
1:00 – 2:00	**Research Bites – Strand C**	Fletcher Theatre

1:00 – 2:00

Research Bites – Strand C

1. **An Examination of the Ratio of In-Class Time to Out-of-Class Time Spent on Learning Activities**
   Samantha Pattridge, University of the Fraser Valley

2. **Avoiding Unintended Negative Consequences of Multiple-Choice Testing**
   Rajiv S. Jhangiani, Kwantlen Polytechnic University

3. **Impact of the Course Design Institute and TA Training at a University in China**
   Jane Gair & Cynthia Korpan, University of Victoria

4. **FLexible field trips: Exploring Best Practices in Emerging Student-Led Technology-Assisted Field Trips**
   Loch Brown, University of British Columbia

5. **Using Backchannel Technology to Enhance Large Lectures**
   Derek Turner, University of British Columbia

6. **Where in the World is Flexible Learning? An Examination of the Spaces and Places of Learning**
   Arthur (Gill) Green, University of British Columbia

7. **Capitalizing on Digital Distraction in the Classroom: Use of a Free Online Student Response System**
   Atousa Hajshirmohammadi & Fabio Campi, Simon Fraser University

8. **Measuring and Interpreting the Impact of Instructional Video Tutorials on Educational Labs**
   Fabio Campi, Ranjita Ravi, YiNan Liu & Atousa Hajshimohammadi, Simon Fraser University

9. **Learning Outcomes: How can Adult Special Education Enhance Student Learning and Align with Institutional Priorities?**
   Teresa Morishita, Kwantlen Polytechnic University

10. **Active Learning Techniques: When and How are they Effective?**
    Conrad King, Capilano University

11. **Using an Institutional Repository for Research-Based Active Learning: Teaching Strategies in Undergraduate Publishing**
    Elizabeth Padilla, British Columbia Institute of Technology

	12. **A Tool for Measuring Generic Problem-Solving Skills of Undergraduate Students** *Andis Klegeris, Heather Hurren & Stephanie McKeown, University of British Columbia Okanagan* 13. **Meet Me in the Food Court: Reflections on Mall-Walks and the Pedagogy of Everyday Spaces** *Jamie Rennie, Douglas College*	
2:00 – 2:10	*Movement to Research Bites Networking*	
2:10 – 2:35	**Research Bites Networking Time**	Main Segal Rooms
2:35 – 2:45	*Movement to Theatre for Closing Keynote*	
2:45 - 3:30	**Closing Keynote**: Teresa Dawson, Director, Learning and Teaching Centre & Continuing Assistant Teaching Professor, Geography, University of Victoria Finding the Learning Middle: The Joys of Scholarly Teachers and Teacher Scholars Cultivating Common Ground **Closing Comments**	Fletcher Theatre

Session 1 (10:15 – 11:05) and Session 2 (11:20 – 12:10)

(A) = Strand A - Active or Completed Inquiry Projects

(B) = Strand B – Success Stories from Teaching & Learning Practices

Choose 1 presentation for each of Session 1 and Session 2

Research Bites: 1:00 – 2:00

Strand C – 3 Minute "Slams" on Current Work around Scholarly Practice or Research (Highlight Findings, Pose Questions, Seek Feedback)

All 'bites' presentations happening one after another in this time slot (Theatre)

Opening Keynote (60 minutes)

9:00 am – 10:00 am

Dr. Eric Davis, Provost & Vice-President, Academic
University of the Fraser Valley

The Revolutionary Potential of SoTL: How it Can Help Us Complete the Paradigm Shift from Teaching to Learning

Dr. Eric Davis joined the History Department of UFV (then UCFV) in 1992, served four years as Dean of Arts (2005-09), and has been Provost & Vice-President Academic at the University of the Fraser Valley since July 2010, after acting in the position for a year.

Originally from Montreal, Dr. Davis holds BA and MA degrees from Concordia University, and a PhD (DPhil) from the University of Sussex (England). He has held academic positions at Concordia, McGill, and Memorial University of Newfoundland.

One striking fact about the now classic 1995 article on "From Teaching to Learning: A New Paradigm for Undergraduate Education" is how relevant it remains and how much of the agenda it lays out has still to be achieved. I want to discuss, from a Provost & Vice-President, Academic's perspective, the organizational and cultural challenges that need to be met for universities to complete this paradigm shift from teaching to learning and the crucial role that SoTL can play.

Live Feed	http://www.sfu.ca/webcast/index.html
Archived Keynote	http://proflearn.bccampus.ca/symposium/

Session 1 Presentations (50 minutes)

10:15 am – 11:05 am *Choose one of the ten presentations (#1-10)*

1. **From Barriers to Breakthroughs: Student Experiences of a Deliberately Transformative Learning Environment** (Strand A)
   Brigitte Harris, Royal Roads University (Theatre)

   Royal Roads University's learning and teaching practices explicitly aim to create "a learning context that facilitates and promotes personal and professional transformation" (Hamilton, Márquez & Agger-Gupta, 2013). While many students have told us that they were initially drawn to the RRU's learning approach, they soon realized that their previous educational experiences and the way they had learned to learn did not prepare them for RRU's learning environment and practices. For instance, how does one co-create knowledge when he or she has primarily experienced learning as transmitted from teacher-expert? How does one learn with student-peers in community when, a students' previous experience of learning was largely a process between teacher and student? Or, how does one translate the traditional conception of academic rigour into an applied learning and research context?

   This narrative inquiry explored 93 students' transformational learning experiences. We identified ways that students reconcile tensions, conflicting beliefs, assumptions and values in order to more fully and effectively experience and benefit from a transformative learning environment. We compared our students' experiences with the literature on transformational learning, stages of change, change readiness, and transformative change facilitation models. We found that the students experience disequilibrium as they struggle to make meaning in a learning environment that promotes questioning of assumptions and ultimately transformation. However, this state of uncertainty triggers deep learning, as predicted in the literature. For our participants, the resulting transformation was highly rewarding. This study both affirms the approach and helps us to understand in more detail the student experience.

2. **The Big Picture: Developing Vocabulary and Grammar to Share SoTL Projects and Identify Evaluation Patterns** (Strand B)
   Ido Roll, Andrea Han, & Adriana Briseno-Garzon
   University of British Columbia (Segal 1400)

   SoTL projects are typically highly contextual, rooted in disciplinary knowledge and practices, and apply diverse evaluation approaches (Felten, 2013; Regehr, 2010). Therefore, transferring knowledge and identifying patterns across a large number of projects is challenging. The research question that we address is the following: how can we facilitate better communication of and comparison between projects? We focus on methodological aspects by looking into what elements of teaching are concerned, what impact is desired, and how these are evaluated. This process aligns instructional elements, goals, and assessment of SoTL projects (Carver, 2001; Fink, 2013).

Towards that goal we have developed the following framework:
1. Vocabulary: A taxonomy of instructional elements, desired impact, and evaluation approaches. The taxonomy was created bottom-up, by engaging with project teams across UBC.
2. Grammar: A structure that weaves these into coherent and succinct "SoTL Stories" at a level of abstraction that is useful for identifying related projects (e.g., "evaluate the impact of student-generated content on student motivation using focus groups").
3. A detailed taxonomy of context that allows us to ground the SoTL Stories in specific scenarios.
4. An approach for aggregating and presenting this information in a manner that is useful for instructors and course teams.

In this session we will share our process and findings, include detailed examples, and work with participants to apply the framework to their own project.

3. **Integrating Metacognitive Curricular Interventions into the Undergraduate Curriculum** (Strand A)
Peter Arthur, University of British Columbia Okanagan (Segal 1410)

Faculty teaching at a small Canadian university were finding that numerous incoming freshman taking science experienced difficulty with monitoring their progress and general problems with learning how to learn. In response, metacognitive curricular interventions were created and implemented into a number of undergraduate classes. Curricular interventions consisted of lecture wrappers, exam wrappers (Lovett, 2008), metacognitive note-taking, exam planning and study strategies. These interventions intended to support students with planning, monitoring and reflecting on their learning. Consequently, a multi-year, multi-classroom/discipline research study was conducted to explore their effectiveness and to inform future curriculum development. The study used a pre-test/post-test model with seven first and second year classes. Over the past three years over two thousand students have participated as either a comparison group or experimental group. The Metacognitive Awareness Inventory (Schraw & Dennison, 2004), study skills survey, and growth mindset was used as the basis of the pre-test/post-test. In addition, the students from classes who experienced the interventions were asked their perception of the curricular interventions usefulness with supporting their learning. Study results are being used to further develop curricular interventions for first and second year university science students and to inform future research.

4. **Using Moodle to Facilitate Learner Planning for Collaborative Work** (Strand A)
Mariel Miller, University of Victoria (Room 1420)

While collaboration has become a critical skill for 21st century learners, students encounter a wide array of teamwork challenges and often lack critical skills for regulating their collaborative learning (Hadwin, Järvelä, Miller, 2011).

Recent research suggests online tools and environments offer potential to remediate these difficulties by supporting essential regulatory processes, such as negotiating shared plans for the task (Järvelä & Hadwin, 2013; Miller & Hadwin, 2015). Drawing on this research, I aimed to create online supports in Moodle to support 192 undergraduate students successfully engage in a graded collaborative task. Two tools were designed: (a) an individual planning tool that provided members with high vs. low solo planning support, and (b) a group planning tool that provided groups with high vs. low shared planning support. Examination of the effect of tool support level indicated that, regardless of level of individual support, groups that received a high level of support created plans more aligned with the requirements of the task, capitalized on each other's perceptions of the tasks during planning, and engaged in more transactive discussion about the assignment requirements.

5. **Work Integrated Learning (WIL): Strategies for Any Class** (Strand A)
   Linda Pardy, University of the Fraser Valley (Segal 1430)

   For almost 10 years now scholars have described an epidemic of work/life unreadiness and have been challenging post-secondary educators to reconsider seriously the responsibility of educating the whole person and enhancing the student experience as a holistic approach to work/life readiness. Today students are looking to ensure their learning transfers to the workplace, and as a result many faculty are trying to find a balance between academic rigor and workplace skill development. While some may want to debate that workplace skills should not be the goal of all courses, this session will share strategies, techniques, assignments, and resources that can serve to support and renew a teaching and learning practice trying to achieve this balance. The session will outline ways to incorporate Work Integrated Learning (WIL) without leaving the classroom or lecture hall. It will demonstrate why understanding Happenstance Theory is critical for students and their understanding of how to transfer classroom skills to the workplace. And it will encourage participants to brainstorm ways they can apply WIL to a course they teach or a program they are designing.

6. **The Awkward "R": Addressing Issues of Race and Racism in the Classroom and the Institution** (Strand A)
   Satwinder Kaur Bains & Sharanjit Kaur Sandhra,
   University of the Fraser Valley (Room 1500)

   This presentation will reflect on a research study we have undertaken as members of the Race and Anti-Racism Network at our institution. The research project, titled "Postcards from the Margin," collected anonymous stories and anecdotes on student, faculty and staff perceptions of racism on campus. The presentation will reflect on the findings of this survey done and touch upon the larger literature reviews looking at racism on campuses

across North America. What are the implications of this research and these findings? The presenters are very much interested in seeing how other institutions have implemented learning designs in the classroom setting to counter issues of racism, inequalities and marginalization that many students may feel.

7. **Life's a Lot Like Jazz - It's Better When You Improvise** (Strand A)
Sherrill Rutherford, Vancouver Island University (Room 2200)

Learning to improvise jazz music is an exceptional feat of human cognition that some say is impossible to teach. When jazz originated, improvisation was learned exclusively by ear. Fast forward 100 years and jazz improvisation is being taught through theory and notation; approaches are highly variable with little agreement on best methods, and very little research into this area of education has been undertaken. This conundrum spawned my research question: What approaches do expert and novice jazz musicians find to be most effective for learning to improvise jazz music?

Instead of attempting to test the efficacy of individual jazz pedagogies, I asked jazz students and teachers about their personal experiences, and analysed their responses with Q methodology, to identify common viewpoints. The results suggest that viewpoints regarding how best to teach and learn improvisation are determined by personal learning style, not demographics or past experiences. These findings are extremely salient to learner-based education.

Although the subject of this research is jazz improvisation, it has relevance to all areas of education. An improved understanding of how best to teach jazz improvisation is relevant to education in other creative practices, particularly fields where there is a performance component that involves artistic spontaneous creativity and communication. In addition, many educators feel that improvisation should be a part of any curriculum because this ability is fundamental to problem solving.

8. **Games in Class: A Case Study of Gamification in an Undergraduate Communications Course** (Strand B)
Jaigris Hodson & Rob Bajko, Royal Roads University (Room 2280)

The gamification of learning environments involves the application of game mechanics to non-game activities. This proposal discusses the ways that gamification of the Ryerson course CMN 450 (Participatory Media and Communication) led to increases in student interest and engagement in classroom material and exercises. This course employed game elements such as progress mechanics (students earned experience points and badges as they completed weekly exercises), leaderboards (student groups were ranked within the class), and collaboration with fellow students (students worked in teams to complete increasingly challenging tasks). By the end of the course,

students reported increased interest and engagement in the course material as a result of the gamification elements. Furthermore, it will show participants how they can easily gamify their own courses with little to no added classroom technology.

9. **Replacing Bloom with the Medicine Wheel** (Strand B)
   Marcella LaFever, University of the Fraser Valley (Room 2520)

   Based on an extensive literature review of pedagogical practices suggested by indigenous educators, this presentation suggests a four domain framework for developing course outcome statements that will serve all students, with a focus on better supporting the educational empowerment of indigenous students. The framework expands the three domains in Bloom's taxonomy of learning outcomes to a four domain construction based on the four quadrants of the Medicine Wheel, a teaching/learning framework that has widespread use in the indigenous communities of North America (Native American, First Nation, Metis, Inuit, etc). This presentation expands on the cognitive (mental), psychomotor (physical), and affective (emotional) domains to add the fourth quadrant of the spiritual domain as being essential for balance in curricular design that supports students in their learning goals. The scholar also draws on academic research about spirituality and learner motivation in post-secondary education. The description of the spiritual quadrant includes a progression of learning outcomes and suggested verbs for developing learning outcome statements.

10. **Enhancing Campus Wellbeing through Evidence-Based Projects:**
    The Impacts of Increasing Student Empowerment, Engagement,
    and Social Connectedness (Strand A)
    Karen Smith, Natasha Moore & Kelly White
    University of British Columbia (Room 2540)

    The transition into higher education poses many challenges to a student's health and well –being. In our study at UBC-Vancouver, we set out to understand how creating a learning environment that promotes three themes (student engagement, empowerment, and social connectedness) will affect student well-being and academic success. In this session, we will share our results from this UBC classroom-based research project which examined the impact of different levels of professor engagement on student health and how an instructor encouraging and enabling students to create an action plan may impact their well-being and academic achievement. Session participants will learn about the methodology, implementation and outcomes for our project and will be shown examples as to how to promote wellness in their own classrooms. While, at UBC, our purpose of the study is to find a mechanism that can be integrated broadly across learning environments, session participants will engage and reflect in these and other processes that could support students' well-being and academic success.

Session 2 Presentations (50 minutes)

11:20 am – 12:10 pm   *Choose one of the nine presentations (#1-9)*

1. **Direct Instructions (DI) vs. Productive Failure (PF) Best Practices for Interactive In-class Activities** (Strand A)
   Sunita Chowrira & Karen Smith, University of British Columbia (Theatre)

   In a flipped classroom setting, the in-class activities are designed to engage students with the material in a more interactive and meaningful way. With regards to student learning and long-term retention of the materials, not all in-class activities are created equal. Interactive in-class activity design could encompass a broad range of instructional strategies to enable learning, each with merits that are extensively argued and documented in the literature (edited volume of papers by Tobias and Duffy, 2010). Preliminary data from an introductory biology course at UBC suggest that student learning and long-term retention, as indicated by student performance on exams, vary with the type of in-class activities students engage with in a topic-specific manner.

   Our question: What is the effect of altered sequence of in-class learning activities on student engagement and student learning in an introductory cell biology course? A comparison between two instructional approaches, Direct Instructions (DI) versus Productive Failure (PF).

   In-class activities, based on the two design principles, DI (Hattie, J. A. C. 2009), and PF (Kapur, M. and Bielaczyc, K. 2012), were introduced and investigated in our study. Significant differences in student performance on immediate- and delayed-post tests were documented for two of the topics used in the study. While better long-term retention was observed for the in-class activity with the DI approach for one of the topics, student performance on delayed post-test was better with the in-class activity that incorporated the PF approach for the 2nd topic. In this session, we will present an exploratory approach to examining the effectiveness of DI and PF activities. Participants will engage in a DI and PF approach to designing learning activities and discussing which types of activities may be better served in various contexts.

2. **EAL Writers as Peer Reviewers: Challenges and Opportunities** (Strand B)
   Amanda Goldric-Jones & Shauna Jones, Simon Fraser University (Segal 1400)

   It can be challenging to incorporate peer review in writing-curriculum design or renewal, especially with a significant English-as-additional-language (EAL) population. Students distrust peer review if they believe peers are weak writers, and EAL writers may not feel confident about their ability to provide "correct" feedback. In pre-professional programs such as business, peer review has not been widely adopted in writing courses (Rieber, 2010) even

though students will need those skills in their working lives (Holst-Larkin, 2008). Proposing that peer review can enhance EAL students' writing skills, professionalism, and confidence, we begin this session by describing why and how we incorporated peer review in three business-writing classes, each with a large EAL constituency. We then invite discussion to explore such questions as—How does peer review impact students' revisions? Does peer review increase EAL students' confidence in their feedback and writing? How do we help peers work through differences in language fluency? What value do students place on peer review? What do students and instructors learn? We conclude with a brief review of studies about the effects of peer-review on EAL writers (e.g. Choi, 2013; Vorobel & Kim, 2013), including early results from our research-in-process on this topic. Our experience will resonate with writing instructors and course developers considering or using peer review. Session participants will learn more about the challenges and opportunities of incorporating peer review, and will take away strategies to support EAL and non-EAL learners.

3. **Preparing Students for Self-Directed Learning** (Strand A)
Gail Hammond & Alice Cassidy, University of British Columbia (Segal 1410)

We are conducting a multi-level needs assessment to investigate the experiences, understandings and perceptions of self-directed learning (SDL) held by current students enrolled in two large introductory nutrition classes and former students who are now teaching assistants (TAs) for the course.

Our key research question is: In what ways are second year nutrition students ready for self-directed learning (SDL)? The pedagogy of SDL assumes student willingness to adopt greater responsibility for their learning (Robertson, 2011). To explore this assumption, we will use the SDL literature (Phillips, et al., 2015) to develop an online survey tool for students in two large second-year nutrition classes (prospective view) and use focus group methodology with current teaching assistants (TAs) who were former students in the course (retrospective view).

The findings of this study will help us determine ways to inform change to course design and delivery that will foster great student preparedness for SDL and engagement in their learning. Once implemented, an evaluation of changes to the course will inform incorporation of SDL opportunities into other courses within and outside of the Faculty of Land and Food Systems.

4. **When Computers Meet Biology** (Strand B)
Mila Kwiatkowska & Joanna Urban, Thompson Rivers University (Room 1420)

This talk will present the real-life experience of team-teaching by faculty from Computing Science and Biology. It will concentrate on teaching bioinformatics in an undergraduate course, "Introduction to Biomedical Informatics."

Biomedical informatics is a rapidly growing field which studies biological and medical data, information, and knowledge and their storage, retrieval, and optimal use for problem solving. The main purpose of this course is to involve the students in practical research projects in order to spark their interest in biomedical informatics as important discipline and as possible future career. The course is inquiry-based, giving students real data (anonymized) from a clinic, and real DNA data from the sequencing of aquaporin gene, which is the research area of J.U. The modelling and analysis of medical data and Perl programming is based on the research of M.K. To introduce the students to "just enough" background knowledge, we involve faculty from the specific disciplines (we believe that introductory topics require deep knowledge and skill expertise from the teachers).

5. **Investigating the Effectiveness of a Partially Flipped Classroom on Conceptual Learning and Engagement** (Strand A)
Mala Fernando & Brigit Schwarz, Simon Fraser University (Room 1430)

Over the years, I have observed that keeping the non-biology major students, motivated and engaged using just power point lectures and in class randomly posed questions was a challenging task for me and many other instructors who teach this course. The objective of this study is to investigate:

a) the effectiveness of partially flipping the classroom on conceptual learning, and student engagement
b) a comparison of the partially flipped classroom with previous straight lecture courses
c) if students will improve in addressing conceptual questions when team based approaches are taken

To transform the existing lecture oriented pedagogy to more engaging and learning oriented experience, I designed an interactive teaching model in which students come to class prepared and class time is used for higher-level thinking and skill development. I plan to compare the effectiveness of students' readiness to class activities and application of the concepts with similar questions given previously for the same course without such active participation. To enable this pedagogy, I started producing videos consist of content and quizzes. These, along with usual power point lectures are posted on the LMS prior to the flipped Monday class. Every Monday class time is dedicated for higher-level thinking and skill development by answering higher order multiple choice and short answer questions using iclickers (individually) and as groups (IF-AT cards). Data collected over the present semester and in next year. Also online anonymous questionnaires will be used to gain students point of view on the new flipped class room.

6. **Moving from a Traditional to an Inquiry-Based Teacher Education Program: One Instructor's Experience** (Strand B)
Teresa Farrell, Vancouver Island University (Segal 1500)

At Vancouver Island University, the Faculty of Education has redesigned the last semester of our post-baccalaureate and our Bachelor of Education program to incorporate an inquiry-based learning format. Four of the five courses are being completed as individual inquiries. Each week students craft and explore an inquiry question that addresses a course outcome and present the results to a small group of their peers. Using this inquiry based approach gives students an opportunity to personalize their learning by exploring questions and ideas that interest them and that build on their prior knowledge and background.   As well as their inquiry investigations and presentations, students have a number of other opportunities to enhance and build on their learning and interests. The students are also engaged in a community action project, optional and required seminars, and a book club.

The purpose of this presentation is to outline the design of Vancouver Island University's inquiry-based pre-service teacher education program and to share the experience from one instructor's perspective. Participants will learn about the model that Vancouver Island University is using as well what benefits and challenges of implementing an inquiry-based program as experienced for this instructor. Participants will then be asked to examine their own contexts for possible opportunities to incorporate inquiry and discuss the possibilities, value and challenges of engaging in an inquiry model compared to a traditional model of delivery, as well as possible strategies for incorporating elements of inquiry into a traditional classroom. We will show how we use hands-on practical approach to learning and how we use group projects to engage the students. The practical components include programming laboratory, data analysis assignments, and field trips to biology "wet" laboratory. The projects are done by groups of students and carried throughout the course from a project proposal, through project presentation, to final project report. We also will talk about the role of hands-on student projects in introducing the students to undergraduate and graduate research.

7. **Putting My Spin on It: Tinkering with An Online Post-Secondary Course** (Strand B)
Julia Hengstler, Vancouver Island University (Room 2200)

Julia Hengstler is a professor in the post-graduate Online Learning & Teaching Diploma Program at Vancouver Island University's Faculty of Education. Over the last 3 years, Julia has been tinkering with her online course design incorporating a flipped approach--using asynchronous activities combined with voluntary synchronous sessions; differentiating a segment of the available course into 3 levels (novice, intermediate, & expert) from which students self-select; and this year, implementing a "points" system for grading that allows any level to obtain a 4.0, has "points boosts" for work done at intermediate & expert levels, and incorporates "Appreciation Points" awarded by students to one another for "worthy" things.

8. **Role-Playing Exercises for Student Engagement in Science and Technology** (Strand B)

Laura Forni, Daria Capostagno & Fabio Campi, Alexander College (Room 2280)

Sciences and Applied Sciences programs often feature large classes. This can be frustrating for students when challenging in the classroom difficult concepts with little direct contact with instructors. In the case of international students, language is another factor preventing involvement and understanding. Literature suggest that students should be engaged and encouraged to direct participation, but class sizes and cultural and language barriers often prevent widespread involvement despite the instructor's best intentions.

Role playing has often been applied in teaching law, literature, history, languages, biology and other sciences, as a strategy towards independent thinking and active participation. In its classic enactment, after working and revising historical or social situations, or scientific phenomena, students are organized in groups and encouraged to enact the topic at stake. This requires class time and careful preparation, more suitable to advanced courses or secondary schools.

In the authors' experience, valuable classroom engagement can still be achieved slightly adapting this paradigm: before the formal introduction of a critical concept, few students are selected, and briefly instructed on the spot to enact in front of their peers a scientific/technology phenomenon. This exercise introduces the lecture concepts, making them less abstract: math and formal definitions can be introduced later. Although the majority of students will only be spectators, seeing peers on the stage creates a strong sense of identification even in very large classes or with internationals, so that the attention threshold is higher and the learning experience is more fulfilling.

9. **Comparison of Faculty Practices and Perceptions with Respect to Time Spent Lecturing** (Strand A)

Gülnur Birol, Adriana Briseño-Garzón & Andrea Han
University of British Columbia (Room 2520)

In October of 2014, UBCV surveyed faculty across campus about their teaching practices, attitudes towards specific practices and perceptions of support for teaching. All 11 UBCV faculties participated, resulting in total of 1177 responses for a 23.5% response rate. In this session, we will provide a brief overview of the survey and share findings regarding key differences in responses with respect to time spent lecturing. We compared response patterns of faculty who reported spending less than 25% of classroom time lecturing with faculty who reported spending more than 75%. Using this data we focused on practices and perceptions related to in-class and out of class expectations, use of TA time, institutional recognition of the value of teaching and utilization of professional development. In this session, we'll invite participants to reflect on their practices and perceptions in relation to our findings and work together in small groups to critically evaluate key data points.

Research Bites

1:00 – 2:00 pm *Join presenters in the Theatre to hear all 'Bites' in this order*

1. **An Examination of the Ratio of In-Class Time to Out-of-Class Time Spent on Learning Activities**
   Samantha Pattridge, University of the Fraser Valley

   This research project seeks to determine, primarily through self-reporting captured in surveys, the differences between faculty expectations of the time students are required to work on outside-of-class activities (or independent activities in the case of online or hybrid courses) and the amount of actual time spent on that work.

   The primary research question is, "What are the variations in the ratio of out-of-class learning time to in-class learning time for students across programs and course at the University of the Fraser Valley?" Secondary questions I hope to answer include the following:

   •What patterns emerge in student reporting of time to complete various activities?
   •What are possible implications for online, blended, and face-to-face course design?
   •How can this ratio inform determination of course credit for curriculum committees?

    I will be seeking feedback on this scholarly inquiry investigation.

2. **Avoiding Unintended Negative Consequences of Multiple-Choice Testing**
   Rajiv S. Jhangiani, Kwantlen Polytechnic University

   Multiple-choice testing is a ubiquitous form of assessment in undergraduate psychology courses. However, the structure of traditional multiple-choice questions (several lures alongside the correct answer) creates the potential for what psychologists have described as a "misinformation effect" (Roediger III, & Marsh, 2005) wherein students form false memories of their incorrect answers. For example, research has shown that when subjects are later asked to re-attempt the same questions, choosing a lure during an initial attempt leads them to select the same incorrect response during the later attempt (Butler et al., 2006). The present study assesses whether this misinformation effect can be ameliorated by adopting a testing procedure wherein students 1) take a multiple-choice test, 2) receive feedback on their test performance, 3) study the material they showed a weaker grasp of, and 4) re-attempt the questions they answered incorrectly. Implications for teaching practice are discussed, along with practical suggestions for implementing two-stage multiple-choice testing.

3. **Impact of the Course Design Institute and TA Training at a University in China**
Jane Gair & Cynthia Korpan, University of Victoria

From April 20 to May 1, 2015, two educational development programs, Course Design Institute (CDI) and a Teaching Assistant (TA) Training program, were delivered at the College of Computers, National University of Defense Technology (NUDT) in Changsha, China by Dr. Jane Gair and Cynthia Korpan, both from the University of Victoria through the Learning and Teaching Centre. Both programs had the same objective – to enhance the quality of student learning. The overarching question for this research is: What evidence is there that the Course Design Institute and TA Training program provoked change in faculty and TAs' thinking about teaching and learning as evidenced through questionnaires administered before and after programming; and what changes will faculty and TAs make to their teaching because of engaging with this programming? It was expected that there would be a positive response to the programming and the intention to change some aspect of their teaching or TA work, since we had been invited to provide this professional development. What was significant is what faculty and TAs identified as areas of change in their thinking about teaching and learning and what kinds of changes they intend to implement. Our study measured the changes incurred through the process of attending the CDI and the intention to implement changes, such as clear learning goals and outcomes that are delivered through active learning strategies, or the changes that TAs will actively pursue in their work.

4. **Flexible field trips: Exploring Best Practices in Emerging Student-Led Technology-Assisted Field Trips**
Loch Brown, University of British Columbia

Experiential learning gained through field trips has long been recognized as an effective way for students from a wide range of disciplines to gain hands-on experience in applying concepts and building new skills (Orion, 1993; Scare, 1997). Unfortunately, the resource intensive nature of field trips in conjunction with growing operational and budgetary constraints among higher education institutions have worked to severely limit the time most students get to spend in the field (Mcguinness and Simm, 2005). Even where traditional field trips are available, many students find themselves unable to participate (e.g. disabled students, distant education students), suggesting the need for more flexible field experiences (Atchison and Feig, 2011; Gilley et al., 2015). One solution to these problems has been to develop "flexible" field trips, be they real, virtual, or blended, that students can experience on their own time and schedule. Such technology-assisted field trips are being adopted by institutions across North America, leading to the innovation of exciting new tools designed to overcome the limitations of traditional field trips (e.g. Stainfield et al., 2000). While this generates new and exciting opportunities for engaging students, the success of "flexible" field trips as measured by student learning hinges on informed design

that applies sound pedagogical practice when leveraging new or existing technologies. In moving this debate forward, this research offers a preliminary assessment of the effectiveness of flexible field trips run by the UBC Geography program and suggests best practice in the design and delivery of blended field trips.

5. **Using Backchannel Technology to Enhance Large Lectures**
   Derek Turner, University of British Columbia

   Despite the revolution in teaching practices in higher education over the past few decades, courses with large lectures remain bastions of traditional pedagogic practice. High enrollment and conventional infrastructure make it difficult to implement active learning in these courses. Backchannel platforms, such as Twitter and online live social networking, can complement existing lectures while providing a sense of community, interaction beyond the classroom and other situational learning opportunities (Yardi et al., 2006; Du et al., 2009). Critics suggest that these technologies create unwanted distractions (Hembrook and Gay, 2003; Phalen, 2003), but this ignores the reality that students are already multitasking in many modern classrooms (cf. Camplese and McDonald, 2010). Why not leverage these distractions to increase student engagement and understanding in lectures and outside of classroom? Initial work on the contribution of these interfaces to student learning shows increased student engagement and generally higher grades (Elavsky et al., 2011; Junco et al., 2011). Other benefits include faster and more organized instructor responses to questions, more transparency for group work contributions (Ebner et al., 2011) and the creation of more intimate lectures by giving all students a voice. There remain significant problems to implementing these technologies, primarily with privacy and eliminating inappropriate use (Schroeder et al., 2010). This research provides potential solutions to these problems and uses learning analytics and social network visualization to evaluate how and where students of different demographics are using these technologies, and what the pedagogical value of one such platform is in a large class at UBC.

6. **Where in the World is Flexible Learning? An Examination of the Spaces and Places of Learning**
   Arthur (Gill) Green, University of British Columbia

   This research examines where and how learners interact with Flexible Learning (FL) technologies. FL is defined as a learner-centered pedagogic approach "offering the student choices in how, what, where, when and with whom he or she participates in learning-related activities" (Collis and Moonen 2011, 15). Despite the promise, there is a paucity of research on the "where" element of FL – mostly focused on campus-based, technology-rich learning spaces rather than increasing mobility of learners and the opportunities mobility provides for teaching and learning (Collis 2010). While higher education institutions widely adopted online learning management

systems since the 1990s, a concurrent revolution of increased mobility (technological devices and expanded connectivity) has caused a ground shift in the ways that teachers and learners use technology in their everyday lives. These changes provide new modalities for interacting with course materials, other learners, and experiential learning opportunities (Salmon 2011). They also question whether FL is fulfilling its promise to enhance access through expanding the geography of learning. After all, where learning occurs influences how activities engage the affective, cognitive, and psychomotor learning domains, and is an important question for the discipline of geography wherein fieldwork is emphasized (Boyle et al. 2007, Lynch et al 2008, Herrick 2010). In this research, we use learning analytics, web analytics, surveys, field observation, and semi-structured interviews to examine the places (e.g. home, campus, transport, or cafes) and spaces (e.g. distances to university and spatial clustering of students) in which FL occurs.

7. **Capitalizing on Digital Distraction in the Classroom: Use of a Free Online Student Response System**

Atousa Hajshirmohammadi & Fabio Campi, Simon Fraser University

Technology-enabled distraction is a problem that no educator can ignore, as mobile access to free internet has become commonplace. It is thus no surprise that we have observed the same phenomenon at SFU, both through direct experience and informal discussions with our colleagues. Faculty members by large agree that innovation in teaching is required to minimize such distractions and keep students engaged during lectures. Student Response System (SRS) is one such –although now well established-innovation. In [1], the authors "found that students became more engaged when clickers were in use in the lecture room than when they were not". Also, "the students appreciate the anonymity afforded by clickers when responding to the lecturer's questions in class". SRS is also a great way for instructors of large classes, to receive time-effective feedback about students learning.

In this presentation we want to share our experience with SFU's Canvas, as a free tool to replace other SRS such as "iClicker" or "TopHat". We take advantage of the fact that almost all our students at SFU own a handheld WiFi enabled device, which can connect to Canvas on a browser or via free Canvas applications. We show that it is possible to imitate the advantages of commercially available SRS systems using Canvas while eliminating their main disadvantage, i.e., the need for the students to purchase a clicker or an online subscription. A great source of information and other ideas about employing online tools for learning and education can be found in [3].

8. **Measuring and Interpreting the Impact of Instructional Video Tutorials on Educational Labs**
Fabio Campi, Ranjita Ravi, YiNan Liu & Atousa Hajshimohammadi
Simon Fraser University

In 2014, we presented at the BCcampus Symposium an ongoing research aimed at designing video tutorials for laboratory activities in Sciences and Applied Sciences. After gathering feedback at the Symposium we designed a set of 10 video tutorials, offered the tutorials as complementary support to lab material in a 4th year engineering course at SFU, and gathered extensive surveys and statistics on the videos utilization from the students perspective as well as opinions form other instructors in SFU and outside.

In this "Research Bite" session, we propose to resume our statistics and findings, and involve the audience in the interpretation of the available data in order to define a set of guidelines for effective design of A/V tutorials for lab activities in all disciplines of sciences and applied sciences. The questions we are going to propose to the audience during our data analysis are

1) Are instructional videos an effective educational tool towards proficiency in the specific, complex professional methodologies introduced in educational labs?

2) Would instructional video tutorials be more engaging and accessible than text documents for students?

3) Can instructional videos release pressure on teaching personnel in educational labs without impacting the quality of learning?

9. **Learning Outcomes: How can Adult Special Education Enhance Student Learning and Align with Institutional Priorities?**
Teresa Morishita, Kwantlen Polytechnic University

Kwantlen Polytechnic University (KPU) has a newly articulated academic plan that identifies learning outcomes for personalized, experiential learning as high priority goals. As a polytechnic university, KPU has an applied mandate of accessibility and open access for all learners. Adult Special Education (ASE) emerged for students with intellectual disabilities at post-secondary institutions (PSI) in the early 1980's. These programs evolved out of values and principles expressed in various social movements rather than educational theory and practice (Hughson, Moodie, & Uditsky, 2006). Recent studies suggest that the field requires further inquiry to address the disparities between curricular alignment, demonstrated student learning, and program effectiveness.

Traditional teaching and learning strategies along with assessment methods commonly used in ASE programming often challenge institutional-level structures and practices. My interest in outcomes based pedagogy to enrich ASE programming prompted an inquiry into the question: How can learning outcomes be defined and assessed for experiential learning within ASE to guide student learning and align curriculum at KPU? Through a case study, I will use a critical disability lens to explore the complex

relationships between fundamental ASE theories and practices with outcome based pedagogy using a constructive alignment (Biggs & Tang, 2011). Constructive alignment is a commonly used framework to design program-level and course-level outcomes to achieve institutional-level priorities and mandates. Participants in this session will provide feedback on the preliminary findings from this inquiry.

10. **Active Learning Techniques: When and How are they Effective?**
Conrad King, Capilano University

Active Learning is a broad term that refers to the use of teaching techniques where students engage in 'learning-by-doing'. This learning involves more than passively listening to lectures – students are active in the process of discovering, processing and applying information. These techniques are increasingly used in college courses on politics, yet relatively little is known about their effectiveness or appropriateness. Are active learning techniques effective? How are they effective? When should they be used? This presentation investigates these issues by reviewing the literature on active learning, with particular emphasis on the use of simulations and (in-situ) experiential learning for college political science courses.

Using a rudimentary natural experiment with three political science classes at Capilano University, I argue that the benefits of complex active learning techniques are not necessarily cognitive (i.e., improved knowledge and understanding of substantive content), but rather, the outcomes are more intangible and not easily measured by conventional student evaluation rubrics. These benefits include improved needs-assessment, higher quality student engagement, and facilitation of affective learning outcomes. Although these beneficial outcomes are typically invisible, they can have positive effects on students' cognitive learning. Finally, this paper discusses the implications of using complex active learning techniques iteratively and non-instrumentally. I argue that simulations are more effective if their pedagogical use is tightly coupled to specific substantive learning outcomes, and that these learning outcomes can improve when simpler techniques, like team-based or problem-based learning, are used to introduce more complex forms of active learning.

11. **Using an Institutional Repository for Research-Based Active Learning: Teaching Strategies in Undergraduate Publishing**
Elizabeth Padilla, British Columbia Institute of Technology

At BCIT one undergraduate program incorporated open access publishing into their curriculum. Using research-based active learning, and peer-review, students wrote and published articles in the IR, which they later presented to the professional community within their field of interest.

Institutional Repositories (IRs) continue to be a widely adopted and established aspect of academic scholarship. Initially envisioned as open access platforms for

graduate and post-graduate researchers to store and make accessible their scholarly contributions, IRs are transitioning into institutional publishing venues, open education resource stores, and communities of collaborations. IR's can also offer faculty a new tool to increase the learning impact for undergraduate students through research-based active learning strategies that result in published undergraduate works. Writing an article for publication as part of the course curriculum allows undergraduate students to develop research and writing skills, and to learn about publishing within their discipline. There is strong research evidence of the positive impact of undergraduate research inquiry and scholarly publishing on the student performance, future employment and use as applications to graduate school.

Academic institutions recognize the value of undergraduate research and have established undergraduate student research programs. IR's are only just beginning to collect and publish undergraduate research, but the full educational potential of undergraduate research works has not been fully realized. Rather than creating silos of collections of research, how can educators use institutional repositories to enhance undergraduate research-based learning and inquiry, open access authorship, learning collaboration, and engagement with community of study?

12. **A Tool for Measuring Generic Problem-Solving Skills of Undergraduate Students**
Andis Klegeris, Heather Hurren & Stephanie McKeown
University of British Columbia Okanagan

University science graduates after entering the job market, will be required to independently navigate through literature looking for reliable sources of information, prioritize their tasks and hypotheses, problem solve, work effectively in a team environment, network, and evaluate job performance of their peers. Even though the above skills are valued by both students and their future employers, most standard university curricula provide very few opportunities for students to develop such skills.

Our research is focused on generic problem-solving skills (PSS) of undergraduate students since the ability to effectively problem solve is a highly valued competency expected of university graduates, independent of their area of study (Greiff et al, 2014; Klegeris et al, 2013). PSS development is hindered by a shortage of available tools for monitoring student progress, and by lack of defined instructional strategies for development of these skills. Our research is aimed at addressing these problems.

We have developed an evaluation tool, which we applied to study the dynamics of PSS of undergraduate students on our campus. We will briefly describe this tool and demonstrate results obtained in a campus-wide PSS study, which involved 26 different courses. We identified several courses, which helped students advance their PSS. Our data also indicate that most of the standard lecture approaches do not develop undergraduate student PSS, and that universities and individual

instructors must take active steps to advance this critical skill set in university students. The PSS testing tool that we have developed is freely available to all interested instructors.

13. **Meet Me in the Food Court: Reflections on Mall-Walks and the Pedagogy of Everyday Spaces**

Jamie Rennie, Douglas College

Much of the research on field trips as part of experiential learning use science courses as case studies: From Biology 'nature walks' to Physics lessons at an amusement park, the idea is that the real world helps students to better understand potentially abstract lessons taught in the classroom. As someone who teaches in the social sciences and humanities, I have felt this same schism between the abstract and the everyday. Getting my students out into the 'real world' has been a goal of mine for several years.

Building on the successful lessons of colleagues and mentors, I developed a 'mall walk' assignment in my first-year Communication Studies course, which I have taught at SFU, FIC, and Douglas College. The assignment requires that students first complete their weekly readings, and then attend class, where we go over key theories and frameworks. Applying these lessons in a space generally excluded from teaching and learning, a shopping mall, encourages students to think critically about their leisure time, as well to take greater enjoyment out of their schoolwork. In this short presentation, I reflect on how I've developed and adapted this assignment over the years (particularly when teaching international/ESL students with a very different baseline of shared cultural experience), and why I believe any and every course should get out of the classroom at least once a semester.

Closing Keynote & Symposium Summary   (45 minutes)

2:45 – 3:30 pm

Closing Keynote: Finding the Learning Middle: The Joys of Scholarly Teachers and Teacher Scholars Cultivating Common Ground
*Teresa Dawson, Director, Learning and Teaching Centre and Continuing Assistant Teaching Professor, Geography University of Victoria (*Fletcher Theatre)

In this wrap up plenary, Teresa will draw together themes from the conference, data gathered from participants' "writings on the wall," and her own historical observations, to celebrate the increasing richness, inclusivity and maturity of this dynamic field. What lessons have we learned? What more do we need to support our work? Where do our responsibilities lie? Come and join the discussion and reflect on possible future paths our community can tread together.

Teresa Dawson is the Director of the Learning and Teaching Centre and a Continuing Assistant Teaching Professor in Geography at the University of Victoria. Her areas of interest include effective teaching assessment, faculty and graduate student professional development, supporting and enhancing diversity in the academy, and achieving teaching and learning-related institutional change, particularly regarding curricular reform. The scholarship of teaching and learning is a key tool she uses to achieve these goals and Teresa has been responsible for the establishment of grants and institutional processes to support and value SoTL in two Canadian institutions.

An award-winning teacher in her own right, Teresa is a lead author for the 2009 Teaching College Geography: A Practical Guide for Graduate Students and Early Career Faculty from Prentice Hall and a co-editor of Teaching and Learning Community Based Research: From Pedagogy to Practice published in 2014 by the University of Toronto Press. Regionally, Teresa was co-founder in 2007 of the Vancouver Educational Developers Alliance (VIEDA). Nationally, she is Past Chair of the Educational Developers Caucus and served for ten years as a member of the Board for the Society for Teaching and Learning in Higher Education (STLHE).

Live Feed   http://www.sfu.ca/webcast/index.html
Archived Keynote   http://proflearn.bccampus.ca/symposium/

Closing Comments

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Gary Hunt, *Thompson Rivers University*
Liesel Knaack, *Vancouver Island University*
Maureen Wideman, *University of the Fraser Valley*

Map CONCOURSE: Rooms Used for Symposium
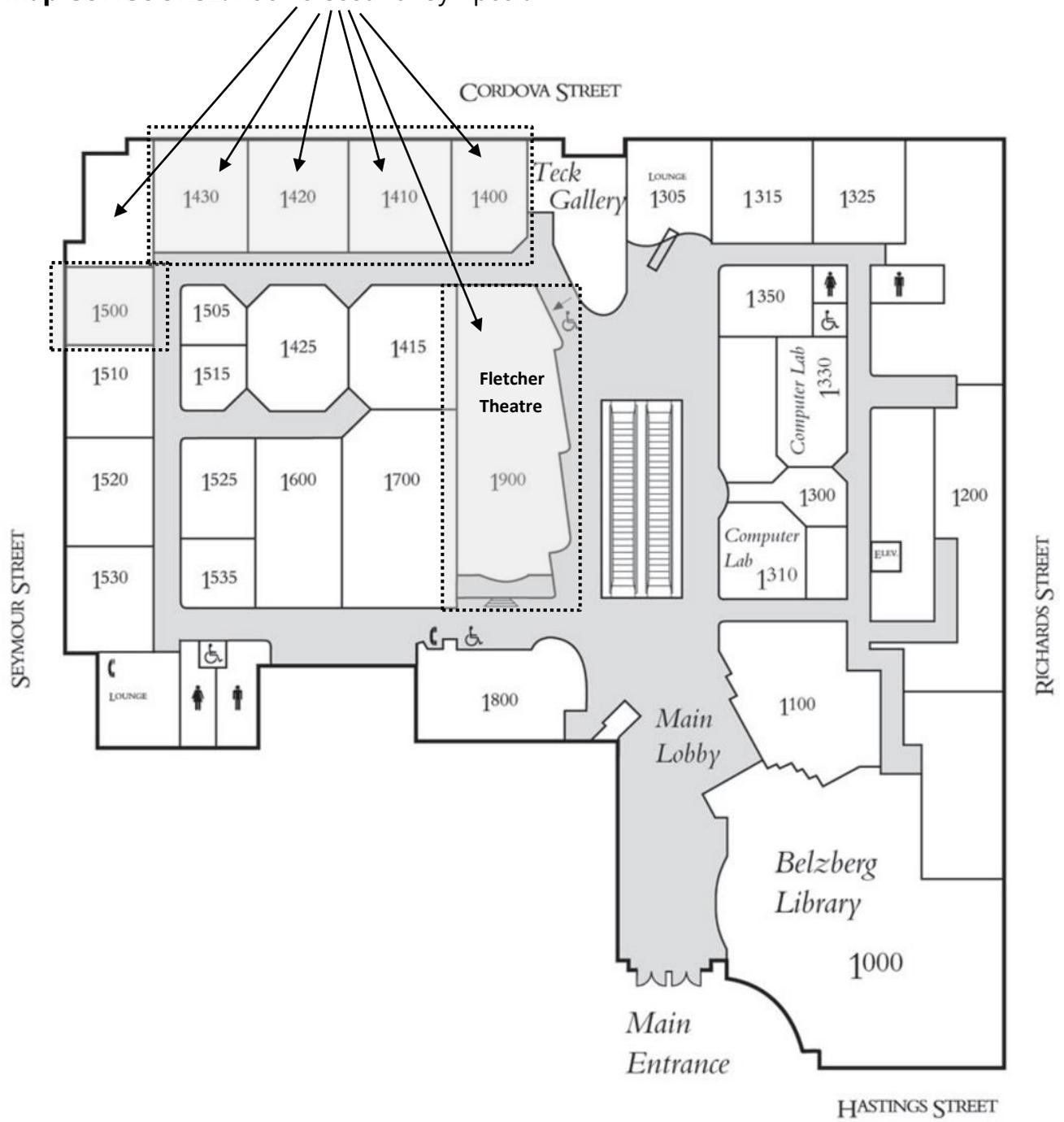
Map UPPER CONCOURSE: Rooms Used for Symposium