Synchronous Hybrid Learning Environments: Perspectives on Learning, Instruction, and Technology in Unique Educational Contexts

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This symposium addresses issues related to teaching and learning in synchronous hybrid environments (previously synchromodal learning environments). Synchronous hybrid environments are technology-rich learning environments that enable online and face-to-face students to interact synchronously with each other as well as with the instructor in a shared learning experience (Bell, Sawaya, Cain, 2014). A number of research perspectives will be discussed, including issues of design, transactional distance, social presence, and more. Presenters in this symposium will also describe the theoretical and pragmatic ways in which synchronous hybrid classes can be supported and researched. The goal is to bring fresh ideas and first-hand experiences to bear on questions of learning and instruction in these exciting and complex pedagogical contexts.

Organization of Symposium
Symposium Chair: John Bell

First hour:
    -Introduction to the symposium: 5 minutes
    -Contributions: 3*15 minutes
    -Discussion with Audience 10 minutes

Second hour:
    -Contributions: 3*15 minutes
    -Discussion with Audience & Wrapping up: 15 minutes

Introduction to the symposium

Digital technologies make new types of teaching and learning interactions possible but they raise important questions in the process. In the case of synchronous hybrid learning environments - those that blend face-to-face and online participants in real-time interactions via technology - these questions can feel familiar and exotic at the same time. What does it mean to teach and learn in complex technological environments? How do students and teachers perceive one another in these environments? How can instructors and institutions plan for a future where learning takes place in a variety of modes - at the same time?

This symposium will address these questions and others for the purpose of sharing research and pragmatic insights on an area of growing interest for instructors and educational institutions. Synchronous hybrid learning class sessions reflect a number of trends in higher education. These include cheap and rapidly advancing technologies for synchronous online interaction; shifting economic conditions that make online forms of learning more attractive; and emerging student priorities that emphasize flexibility in scheduling and location (Henriksen, Mishra, Greenhow, Cain, & Roseth, 2014; Lefoe & Hedberg, 2006). In response, different groups of instructors, students, and researchers have worked to provide support and promote inquiry into the nature and pragmatics of synchronous hybrid learning environments. This symposium is intended as a presentation of our current activities and lines of inquiry into this unique genre of learning and instruction. The following describes the papers to be presented.

The "Virtual Flex Classroom": Portrait of a Synchronous Hybrid Learning Environment
John Bell et al. – Michigan State University

The importance of the design of the classroom for student learning has been recognized for many years (Fulton, 1991; Graetz & Goliber, 2002; Topçu, 2013; Weinstein, 1981). A prominent recent example has been the development and study of SCALE-UP classrooms (Beichner, 2007), rooms that are designed to support a problem-based learning approach to teaching and learning, sometimes called a "flipped

classroom." This paper describes the "Virtual Flex Classroom," a physical space designed to support both an expansion of the room to include both online and face-to-face students as comparable partners, and to support a wide range of pedagogical strategies. With the infusion of Internet-based technologies into the full range of life experiences, a natural extension of face-to-face classrooms, including the SCALE-UP model, is to make the learning community in the room inclusive of people who are not physically present. And in contrast to classrooms that are finely tuned to a single pedagogical model (e.g., SCALE-UP classrooms), this approach endeavors to support multiple strategies.

So Near Yet So Far Away: Transactional Distance in Synchronous Hybrid Learning Environments
Cui Cheng and Sandra Sawaya – Michigan State University

Transactional distance is an important factor that influences learning. Moore (1993) defined it as a psychological and communication space of potential misunderstanding between learners and instructors. Technology-mediated learning environments have redefined the scope of transactional distance to include learners' relationships with other elements, such as the technology and other learners. Synchronous hybrid learning environments further extend learning interactions from a single plane (in either the online or face-to-face environment) to two planes (across the online and face-to-face environments), which presents transactional distance with new challenges. This paper explores the transactional distance of online and face-to-face students in different models of synchronous hybrid learning environments, aiming to examine: (a) whether there is any difference in transactional distance between online and face-to-face students, (b) how students' transactional distance changes over time, and (c) whether there is a relationship between the model of synchronous hybrid learning environments and students' transactional distance. (148 words)

Social Presence in Synchronous Hybrid Settings: Being There
Amy Peterson and Brian Arnold – Michigan State University

Social presence, a learner's feeling of connection to others in a computer-mediated learning environment, has been an important topic of study in online courses, with researchers finding that students with higher social presence were more involved in class discussions (Cobb, 2009) and more motivated (Yang, Tsai, Kim, Cho & Laffey, 2006). Most social presence research has focused on online courses, but it is reasonable to expect that students in synchronous hybrid environments experience social presence differently than those who interact online, because communication methods and social skill use are different in the mixed modality space. This session shares the results of an exploratory study that looks at the following research questions:

• What types of interaction lead to feelings of connectedness in synchronous hybrid classes?
• Do feelings of connectedness change over time in synchronous hybrid classes?

- Are perceptions of connectedness different for face-to-face and online students in synchronous hybrid classes?

A View from the Trenches: The work of using innovative technologies in synchronous hybrid learning environments
Jon Good and William Cain – Michigan State University

It has been our experience that synchronous hybrid classrooms benefit from a unique form of pedagogical and technological support. Technical navigators, or Tech Navs, are graduate students purposefully embedded within the classroom to not only support the use of technology, but also consider the educational possibilities and implications of various technologies at hand. Tech navigators provide crucial support to instructors at multiple levels of course design, implementation, and refinement. This paper collects and synthesizes the collective experiences of tech navigators (Bell, Cain, & Sawaya, 2013) as they implemented several types of innovative technologies in synchronous hybrid learning environments. They also provide significant pre-, post-, and in-class support for instructors and students, advocate for student and instructor needs, as well as produce documentation and collect data for research and inquiry. The purpose of this paper is to describe the activities of tech navigators in detail in order to provide a more complete account of the human capital and resources within synchronous hybrid learning environments.

Towards a Topographic Language for Synchronous Blended/Multi-access Learning Environments: Common Ground in Uncommon Contexts
William Cain, John Bell, & Sandra Sawaya – Michigan State University

The concept of combining face-to-face and online students for shared learning experiences has gained increased attention from teachers, institutions, and researchers for a variety of reasons. The result has been practices and research that approach this concept from different educational and pedagogical perspectives, and that often employ different terminologies and visual conceptualizations (e.g., Graham, 2006; Bower, 2013; Bell, Sawaya, & Cain, 2014). This paper will provide an overview of these different approaches and identify common themes related to the interactions that take place in these designs. In addition, this paper will place a set of models and topographies developed by researchers at the Design Studio at Michigan State University (Bell, Sawaya, & Cain, 2014) within the existing literature on synchronous blended and multi-access courses.

Beyond Blended: Redesign Factors for the Multi-Access Learning Environment
Valerie Irvine, Richard McCue, and Tatiana Little - Technology Integration and Evaluation (TIE) Research Lab, University of Victoria

The growing use of blended learning is an indicator that brick-and-mortar campuses are beginning to embrace online modalities as part of legitimate learning practices, but multi-access learning (Irvine, 2009; Irvine, 2010; Irvine, Code, & Richards,

2013) is the next frontier in which the merging of modes can further learner personalization. Clark and Feldon (2014) make recommendations for future research directions stating that significant attention should be given to research and evaluation studies that focus "on the use of media to improve student access to instructional programs and to reduce the cost of learning" (p. 153). Major (2015) profiles some of the multi-access pilots undertaken at the University of Victoria and how the role of learning pathways is an important factor in the design of multi-access learning. In this session, we will provide a summary of important redesign factors and specific experiences from instructor and student perspectives, infrastructure and policy considerations, and future directions for research into multi-access learning.

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