Tensions and tools: Using activity theory to guide and evaluate education and healthcare reform

TITLE: Tensions and tools: Using activity theory to guide and evaluate education and healthcare reform
CONTACT (NAME ONLY): Douglas Larsen
SUBMISSION ROLE: Sessions on Medical Education
ABSTRACT BODY:
Topic Short Description: Changes in academic medicine demand innovation and reform in both health professions training as well as patient care delivery. Cultural historical activity theory (CHAT) provides a framework to analyze complex systems and to identify tools to reconcile the tensions that can arise from competing outcomes within those systems. In this hands-on session, participants will gain a foundational knowledge of CHAT and use the theory to analyze actual educational and healthcare programs.

Presenters: Douglas P. Larsen, M.D., M.Ed.
Associate Professor of Neurology & Pediatrics
Washington University in St. Louis School of Medicine
Role: Dr. Larsen will discuss the use of CHAT to analyze education innovations.

Lara Varpio, Ph.D.
Associate Professor of Medicine
Associate Director of Research, Graduate Programs in Health Professions Education
Uniformed Services University of the Health Sciences
Role: Dr. Varpio will present an overview of CHAT and lay the framework for how CHAT can be used to guide and evaluate change in complex systems.

Laura Nimmon, Ph.D.
Assistant Professor of Occupational Science and Occupational Therapy
Research Scientist, Centre for Health Education Scholarship
University of British Columbia Faculty of Medicine
Role: Dr. Nimmon will discuss the use of CHAT to analyze human activity around collaborative practice on healthcare teams.

Facilitator: Douglas P. Larsen, M.D., M.Ed.
Associate Professor of Neurology & Pediatrics
Washington University in St. Louis School of Medicine

Learning Objectives: Audience members will identify the components of activity systems and how tools are used to mediate human activity.
Audience members will explain how to use CHAT to analyze complex educational and healthcare systems.
Audience members will demonstrate how to use CHAT to identify the opportunities and barriers to innovation and reform in health professions education and healthcare delivery.

Session Plan: Educational Need: Academic medical center leaders face massive changes in both education and healthcare. Current and anticipated changes demand innovation and reform in both health professions training as well as patient care delivery. However, leaders can often feel lost on how to begin the process of change and reform as well as how to evaluate these changes, especially when they do not produce the anticipated outcomes. Cultural historical activity theory (CHAT), also known simply as activity theory, is a sociomaterial learning theory used to analyze complex systems that can provide powerful insights into the motivations and mechanisms of change within those systems. CHAT focuses on how education and work systems often create contradictions and tensions that can arise from competing outcomes (e.g. high-quality patient care and learner skill development). However, CHAT also identifies ways in which people develop and use tools to reconcile those contradictions and find new ways of working together. These new forms of collaboration are referred to as expansive learning. Because of its focus on interactions and outcomes within a system, CHAT provides a means by which systems can learn and constantly improve. CHAT and expansive learning create a framework for a culture of collaboration in work and education. Once academic leaders begin to understand the components of CHAT, it can serve as a lens to for them to recognized opportunities for reform and innovation and can provide a means for identifying solutions to the practical problems that they face. This session will provide hands-on experience and training to assist leaders in this process.
Session Outline (75 minutes):

Introductions and overview (5 minutes)
Presenters will be introduced and participants will engage in a short activity to help them get to know everyone at their table and begin to build a team by discussing their current reform efforts.

CHAT as a theory of change (20 minutes)
Employing the experience and research of all three presenters, we will provide a brief overview of CHAT to provide participants with a knowledge of the definitions and vocabulary used in CHAT. We will also describe the various components of CHAT, how they are analyzed, and how they interact. Specifically, participants will come to understand and use the concepts of subjects, objects, mediating tools, outcomes, division of labor, community, rules, and activity systems. We will discuss the concepts of contradiction and tension within activity systems. We will also provide participants with a range of examples of CHAT analyses in various scenarios of medical education and healthcare delivery such as assessment tools for competency-based education, the use of electronic health records in education, the implementation of quality improvement systems, and the use of systems to overcome healthcare disparities. These examples will prepare participants to work through the group activities.

Small group activity: Applying CHAT to a program of self-regulated learning in clinical education (10 minutes)
As a team at each table, participants will use CHAT to analyze a medical education curriculum reform effort in self-regulated learning and student goal setting. Participants will use the raw data from student and faculty interviews to analyze the program and evaluate its function using the CHAT framework.

Large group activity: Applying CHAT to a program of self-regulated learning in clinical education (10 minutes)
Small groups will report on the conclusions they found in their analysis. They will be encouraged to discuss the challenges they encountered and the insights they gained from the analysis. After the groups discuss their analysis, the presenters will also briefly share the findings from the research study that the data were taken from to provide participants with an example of where the analysis can lead.

Small group activity: Applying CHAT to healthcare team interactions (10 minutes)
Participant small groups will reconvene to analyze the interactions around patient care on healthcare teams using CHAT. Participants will again use raw data from observations and interviews. They will discuss how CHAT can be used to analyze team dynamics and the role of the patient in mediating this activity system.

Large group activity: Applying CHAT to healthcare team interactions (10 minutes)
Small groups will present their insights, struggles, and observations in applying CHAT to analyze healthcare delivery in teams. Once participants have shared their findings, the presenters will briefly share some of the analysis and findings from the research study from which the data were derived.

Discussion, questions, and wrap-up (10 minutes)
In addition to clarifying any questions that participants may have, participants will also be asked to reflect on insights they gained from the session and how they can apply those insights to their own innovation and reform projects.

References:
4. De Feijter JM, de Grave WS, Dornan T, Koopmans RP, Scherbier AJJA. Students’ perceptions of patient safety during the transition from undergraduate to graduate training: an activity theory analysis. Advances in Health Sciences Education. 2011;16:347-358

**Level of Audience:** Mid-career  
**Focus of Presentation:** UME, GME, CME, Continuum  
**AUTHORS/INSTITUTIONS:** D. Larsen, Neurology, Washington University in St. Louis School of Medicine, St. Louis, Missouri, UNITED STATES|L. Varpio, Medicine, Uniformed Services University of the Health Sciences, Bethesda, Maryland, UNITED STATES|L. Nimmon, Center for Health Education Scholarship, University of British Columbia, Vancouver, British Columbia, CANADA|