

**Carol Shields** | [shieldsc@winthrop.edu](mailto:shieldsc@winthrop.edu)

Winthrop University

Rock Hill, South Carolina, USA

**Kellah Edens** | [kellah@sc.edu](mailto:kellah@sc.edu)

University of South Carolina

Columbia, South Carolina, USA

## **Vygotsky and Cognitive Load Theory: A New Synthesis for Case-based Pedagogy**

### Proposal Summary

This session will provide a Vygotskian lens for examining practice and theory. Specifically, case-based pedagogy and Praxis II case assessment and Sweller's Cognitive Load Theory (CLT) will be examined within a Vygotskian framework. An application of the Vygotskian perspective in an exploratory study conducted in two undergraduate classes will be described and analyzed. Theoretical and practical implications will be discussed interactively with the audience.

### Objectives

1. To provide an overview of the aforementioned exploratory study; and
2. To engage the audience in a discussion of the relationships between tenets of Vygotsky's influential theory, current pedagogy and related assessment, and a theory (CLT) emerging in the 21st century.

### Authentic Learning Tasks

A Driving Force for Learning? OR Do They Overload the Learner?

Case-based instruction has been viewed as a viable alternative to traditional didactic approaches to facilitate the integration of knowledge, skills, and dispositions. The use of cases (i.e., scenarios that portray real-life incidents in schools) provides a more authentic instructional context. Preservice teacher education programs focus heavily on open-ended tasks and national tests of teacher knowledge, like the PRAXIS series, use case studies with open-ended questions to assess knowledge and application of principles of teaching and learning.

CLT has been critical of approaches to instruction that center around authentic learning tasks (Merriënboer, Kirschner, & Kester, 2007). From the CLT perspective, novice teachers do not have well-developed schema to draw upon when faced with the complexity of real-world situations. They may be overwhelmed by open-ended questions when no clear direction to the principles addressed is provided.

This study examines the mental load and performance of students presented with a case study with heavy germane load (questions may be answered with a variety of educational principles) and a case study with limited germane load (questions focus on a specific educational principle). Reducing extraneous cognitive load is accomplished by increasing those factors the instructor controls.

Vygotsky's ideas on the development of conceptual thinking, a higher-order capability, are also useful in thinking about students' analyses of case studies. Vygotsky describes a higher-order concept as a series of judgments through which an individual organizes his/her responses to complex stimuli. Reducing the possible judgments reduces cognitive load.

#### Audience Involvement

To engage attendees, this session will use an interactive audience response system, also termed "clickers."