

1125-VU-2958      **Ashley Berger\*** (berger@ou.edu), 601 Elm Ave, Norman, OK 73019, and **sepideh Stewart** (sstewart@math.ou.edu), 601 Elm Ave, Norman, OK 73019. *Schema as a theoretical framework*. Preliminary report.

In this talk we present a theoretical framework based on Skemp's idea of schema, in order to investigate undergraduate students' understanding of Topology. According to Skemp (1971), concepts are embedded in a hierarchical structure of other concepts, these levels in the structure being classifications of concepts. As the concepts are paired together, relations between them as well as classifications are also possible. The complexity of this hierarchical structure comes from the fact that these classifications of concepts and relations are not unique, giving way to multiple hierarchical structures, which can be interrelated. When components of these conceptual structures come together to make a structure that would not be realized by only looking at the individual components, the resulting structure is called a schema. A schema integrates existing knowledge, serves as a tool for future learning, and allows for understanding to take place. Without a suitable schema in position, students will have difficulty in understanding or making sense of new concepts. The proposed framework will promote schematic learning and seek to identify whether the presence or absence of a certain schema will have an effect in understanding new knowledge. (Received September 20, 2016)