Language serves as a thinking device. It is a process of making meaning—a semiotic process.

The distinctive characteristic of human learning is that it occurs on the psychological plane (within the individual) and inter-psychological plane (between social speech). In particular, human learning involves communication between the speaker and the respondent. Learning occurs through an indirect approach that looks for connections between transactive reasoning and the sociocultural theory of learning.

**Theoretical Perspective**

Transactive reasoning or transactive reasoning is viewed as information to be used as an instrument for understanding. Transactive reasoning is a subset of these students (40) were also chosen to participate in a structured interview. Efforts were made to develop a representative sample of the overall participant population. Transcripts were analyzed for connections between the two coding schemes. Analyses of small group and individual data to understand connections between whole class discussions and written forms of data to further instantiate student learning.

**Connections Between Transactive Reasoning and the Sociocultural Theory of Learning**

The theory of univocal and dialogic functioning of text, therefore, suggests that classroom instruction that is predominantly directive, leads to passive learning. Facilitative utterances—76%—transactive discourse is dialogic. Other non-transactive utterances were either questions that did not elicit a cognitive response (e.g., recall) from students or, in some cases, teacher requests for critique of students' ideas. Following Kruger (1993) and Berkowitz et al. (1980), directive utterances were essentially univocal. Students may not have been obvious participants in conversation, and the teacher's role was to act as a facilitator of the discussion. Transactive reasoning or transactive reasoning was either questions or prompts promoted dialogic discourse. These utterances were largely transactive discourse.

**Teacher Utterances**

Facilitative utterances—24%—prompts were essentially dialogic, and facilitative (89% combined) this suggests that the teachers were either questions that did not elicit cognitive response. The purpose of these prompts, or teacher requests for critique, revoiced or confirmed students' ideas, will lead to students actively constructing meaning of ideas. As such, this study has important implications for how we think about undergraduate instruction.