Haney, Lumpe, and Czerniak (2003) asked: (a) What are the beliefs of the teachers and other school community members about the science learning environment? and (b) How do these belief structures compare? (p. 366) to assess the constructive beliefs about the science classroom learning environment.

Aldridge, Fraser, Taylor, and Chen (2000) defined constructivist teaching in five components: scientific uncertainty, student negotiation, shared control, critical voice, and personal relevance. In contrast, classrooms still follow the traditional view of teacher-centered instruction. Parents and school administrators have been educated in such settings, and they may not be necessarily supportive of the constructivism teaching model (Armstrong, 1994).

Pajrares (1992) summarized educational literature about beliefs:
Beliefs form early and tend to be self-perpetuated. They tend to be preserved throughout time, experience, reason, and schooling.
People develop a belief system that houses all the beliefs acquired through the process of cultural transmission.
Beliefs are prioritized according to their connections or relationship to other beliefs.
The earlier a belief is incorporated into the belief structure, the more difficult it is
Belief alteration is relatively rare during adulthood.

Beliefs strongly influence perception.

The beliefs individuals possess strongly affect their behavior.

Beliefs about teaching are well established by the time a student attends college.

Beliefs play a key role in defining tasks and selecting the cognitive tools with which to interpret, plan, and make decisions regarding such tasks.

Seventy-two participants were selected for the study for a year. The pool included teachers, administrators, parents/community members, and high school students. The study used the BALE instrument with a single open-ended statement for participants to complete: “My perception of the relationship between students and teachers in the learning environment is…” (p. 368).

The results showed significant differences between the constructivist beliefs of teachers, administrators, parent/community members. Their responses included the following belief characteristics: teacher as a facilitator, student preconceptions and relevance, higher order thinking skills, demonstration of understanding, and construction of student conceptual understanding. (p. 369)

Reading through the study, I realized that how I see my role as a teacher formed long before I began my credential program. I often catch myself expecting my students to behave and respond as I did as a student. There is much more I need to learn about the constructivism and other instructional models.
The article asked the participants to complete an open-ended sentence, and I think it was an effective way to collect their hidden perceptions of education. The data analysis was impressive. BALE responses were rated in a scale of 1 to 5. This was a blind review process done by graduate students in curriculum and instruction on science education. There were five categories composed of a total of twelve belief characteristics. The final Pearson interrater reliability coefficient showed a high positive correlation. MANOVA tests were performed to see if the differences were significant, and Tukey’s post hoc analyses were used to determine between which variables the significant differences existed. (p. 369)