

The perspective of *procedural knowing* involves learning and applying objective procedures for taking in and conveying knowledge. Two approaches are evident. The first, *separate knowing*, uses impersonal procedures for establishing truth. Characterized by critical thinking, listening to reason, and an adversarial tone, separate knowing often involves doubting (Belenky et al., 1986). The second approach, *connected knowing*, is grounded in empathy and care. Truth emerges in the context of personal experience rather than being derived from authorities. Connected knowing often involves believing.

Constructed knowing involves the integration of subjective and objective knowledge, with both feeling and thought present. Belenky et al. (1986) asserted that "it is in the process of sorting out the pieces of the self and of searching for a unique and authentic voice" (p. 137) that women discover the two basic insights of constructivist thought: all knowledge is constructed, and the knower is an intimate part of what is known. Constructivists are often able to listen to others without losing the ability to also hear their own voices.

Research

Belenky et al.'s research (1986) spawned further investigation of the relationship of cognitive development to other factors, as well as those factors influencing cognitive development. As an example of the former, Weinstock and Bond (2000) found a relationship between college women's epistemological perspectives and their conceptions of conflicts with close friends. With regard to the latter, student-faculty interaction demonstrated support for the importance of validation, support, and sense of connectedness for women's intellectual and personal development (Sax, Bryant, & Harper, 2005).

Similarly, collaborative learning has a positive impact on college students' development (Cabrera, Crissman, Bernal, Nora, Terenzini, & Pascarella et al., 2002). In contrast, traditional approaches to teaching mathematics are biased toward separate knowers, which underscores the need for more attention to the connected learning perspective (Chapman, 1993). Finally, connected knowing is significantly related to approaches to learning wherein students embrace all responsibilities associated with successfully completing a course (Marrs & Benton, 2009). Examining reasons for continuing studies in their chosen field, two scholars applied Belenky et al.'s linear cognitive developmental progression to women studying nursing, through examination of their growth, self-confidence, motivation, and renewal (Dearnley & Matthew, 2007). Other scholars examining Belenky et al.'s study of women found several previously unexamined associations between "ways of knowing,