Mary Bucholtz
Linguistics, UCSB

Gender, stance, and expertise in scientific problem solving among high-achieving undergraduates

Seeking to explain the persistent gender gap in the sciences, previous research, including language-oriented scholarship, has focused on the problem of the "chilly climate" for women in science and engineering education. Relatively few studies, however, consider those women who overcome obstacles to achieve success in science, and even fewer examine the central role of linguistic interaction in such situations. This paper begins to redress this gap by examining the interactional strategies of successful undergraduate women and men in science majors. The analysis is based on video data of student-centered classroom interactions collected during three years of ethnographic fieldwork among undergraduate chemistry, mathematics, and physics majors at a public research university in California. The analysis first examines students' use of expert-like grammar and stance-taking strategies, through which male students but not their female peers claim identities as scientists-in-training rather than simply as skilled science students. This apparently gendered picture is complicated, however, in the second part of the analysis, in which female students repeatedly take epistemic stances that foreground their scientific knowledge and authority and thus construct scientist identities that receive affirmation and uptake from male and female peers as well as instructors. The analysis shows that female science students may claim a variety of scientific identities through their knowledge displays. The findings demonstrate the importance of examining not only the setbacks but also the varied forms of success for women in science through close attention to linguistic interaction in situated learning activities.