This research is part of an ongoing effort to understand how students participate in learning activities in a student-centered physics class that emphasizes collaborative group work. The context for our study is an introductory physics class structured around the Investigative Science Learning Environment (ISLE) philosophy. We examined how students position themselves in group discussions and how their positioning was related to the dynamics of the group and to the effectiveness of the group as a whole. We observed interesting differences in how the members of different groups position themselves in a discussion and how their positioning was related to the ability of the group to engage in deep and productive discussions about the physics topic they were examining. We also used social network analysis to visualize and quantify each student’s position in the informal learning community that formed outside of class. Our study analyzed the relationship between students’ network positions as they worked together in groups outside the classroom with their performance in the course. Comparisons between two class settings revealed interesting similarities and differences.