We describe a human-robot dialogue system that allows a human to collaborate with a robot agent on assembling construction toys. The human and the robot are fully equal peers in the interaction, rather than simply partners, and joint action is supported at all stages of the interaction: the participants agree on a construction task, jointly decide how to proceed with the task, and also implement the selected plans jointly. The symmetry between participants provides novel challenges for a dialogue system, and also makes it possible for findings from human-human joint-action dialogues to be easily implemented and tested.