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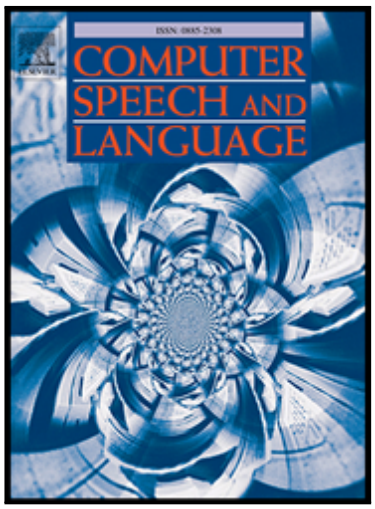

One-on-one and Small Group Conversations With an Intelligent Virtual Science Tutor

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PII: S0885-2308(16)30141-3
DOI: 10.1016/j.csl.2018.01.002
Reference: YCSLA 913

To appear in: *Computer Speech & Language*

Received date: 3 May 2016
Revised date: 23 December 2017
Accepted date: 18 January 2018

Please cite this article as: Ronald Cole , Cindy Buchenroth-Martin , Timothy Weston , Liam Devine , Jeannine Myatt , Brandon Helding , Sameer Pradhan , Margaret McKeown , Samantha Messier , Jennifer Borum , Wayne Ward , One-on-one and Small Group Conversations With an Intelligent Virtual Science Tutor, *Computer Speech & Language* (2018), doi: 10.1016/j.csl.2018.01.002

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Highlights

- The lack of discourse in U.S. classrooms is puzzling given compelling evidence that effective programs exist in which teachers engage students in discourse, which in turn leads to significant gains in student motivation and learning.
- My Science Tutor (MyST) is an intelligent tutoring system that engages students in conversations with a virtual science tutor, leading to learning gains comparable to expert human tutors for elementary school students.
- Students in one condition engaged in a series of one-on-one tutoring sessions with a virtual science tutor, Marni. Following the multimedia presentations, Marni engaged students in question-answer interactive dialogs, during which students constructed explanations in response to Marni's questions. Students in a second condition interacted with Marni in small groups, and discussed answers to the questions.
- Students in both one-on-one and small group conditions were presented with a problem scenario, and then a solution to the problem. These sessions coherently presented science content with follow-up discussions, questioning, and explanations. The learning gains reported in this investigation were similar to those observed in previous investigations.
- Students reported that they enjoyed arguing with their peers, and believed they achieved a deeper understanding of the science as a result of the discussions.

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