October 14, 1992

Defense Technical Information Center
Building 5, Cameron Station
Alexandria, Virginia 22304-6145

Dear Sirs:

This is the first status report of the ONR grant awarded to Arthur C. Graesser, entitled "Questioning Mechanisms during Tutoring, Conversation, and Human-Computer Interaction" (N00014-92-J-1826). This covers the work completed between June 16, 1992 and October 1, 1992.

We have been performing in-depth analyses of the tutoring protocols of the college students who were learning research methods. These analyses examine the collaborative exchange and feedback mechanisms when a tutor asks deep-level questions (why, how, what-if), definitional questions (What does X mean?), and short-answer questions. We are particularly focusing on the feedback that tutors give to the students' answers because our earlier analyses indicated that this feedback (positive, negative, neutral) was uncorrelated with the quality of the students' answers (completely correct, partially correct, vague, versus error-ridden). We are analyzing the hesitations and pauses of tutor feedback, which might signal feedback at a paralinguistic level. We are analyzing the extent to which tutor questions are formulated to diagnose and repair student errors or to implement curriculum scripts. We also are analyzing tutoring strategies at a macro-level.

In the other project on the grant, we are analyzing sequences of speech act categories in dialogues between children. The 90 dialogues occur in the context of free play, a puzzle task, versus a 20-questions game. Our goal is to assess the extent to which various computational models can predict speech act category N, given the stream of prior speech acts, 1 to N. The current models being pursued are Elman's recurrent connectionist network and a recursive transition network.

We have enclosed the requested productivity report and the briefing materials.

Sincerely,

Arthur C. Graesser
Professor, Departments of Psychology and
Mathematical Sciences
ONR PRODUCTIVITY REPORT
(October 1, 1991 to September 30, 1992)

Principal Investigator: Arthur C. Graesser
Memphis State University

QUESTIONING MECHANISMS DURING TUTORING, CONVERSATION, AND HUMAN-COMPUTER INTERACTION

Papers in refereed journals:


Books or book chapters:


Technical Report:

Graesser, A. C. (1992). Questioning mechanisms during complex learning. Final report for grant from the Office of Naval Research (Contract number N00014-90-J-1492), Memphis State University, Memphis, TN.

Presentations


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**AWARDS/HONORS to PI or Members of PI Research Group**

Graesser, A. C. Distinguished Research Award for 1991-92, Memphis State University.

Langston, M.C. Second place, University Research Forum, Sciences Division (November, 1991)