

Research has documented that the discourse and interaction that occur in classrooms form the communicative context for learning (Crago, Eriks-Brophy, Pescoe, & McAlpine, 1997; Wilkinson & Silliman, 2000). Creating a learning environment that emphasizes opportunities to develop and use higher order thinking skills is dependent upon the teacher's ability to scaffold learning opportunities that create contexts for such processes. Equally important is the child's ability as a learner to be able to use language successfully in learning contexts that necessitate collaboration, problem solving and higher order thinking processes. While a great deal of research on classroom discourse has documented the conditions present in formal, adult-direct lessons, there is less of an understanding in the literature of the classroom discourse present in more constructivist, technology-enhanced learning experiences and the implications of that with regards to student learning. Operating from this premise, this investigation was designed to examine classroom discourse in a technology-rich classroom. The study focused on the learning context created by the teacher when interacting with students as they used technology to support their learning. Data obtained from analysis of the teacher's communicative interactions with students were examined within the context of existing research documenting specific teacher linguistic and communicative behaviors that tend to facilitate students' use of problem solving and higher order thinking skills.

Subjects for the study consisted of a kindergarten class that participated in the SBC/Ameritech Electronic Classroom (Kent State University) beginning April 1, 2002 and ending May 10, 2002. Procedures for data collection were designed to be consistent with methodology documented in similar investigations of teacher language/classroom

discourse (e.g., Sturm & Nelson, 1997). A total of nine half-hour segments, or a total of 4 ½ hours of videotape data were obtained over the six week session.

The language samples were transcribed and analyzed using the research software program, *Systematic Analysis of Language Transcripts* (SALT) (Miller, 1984-2002). In addition to the transcription and coding conducted with the SALT program, each sample was reviewed and notes were made to describe the general context of the session such as activities, project focus, teacher actions within activity, etc. Quantitative and qualitative data analyses determined that the communicative interactions that occurred in the samples studied tended to be teacher-dominated with the teacher frequently posing questions to the students that focused on use of the technology. Transcript analysis further revealed that the type and familiarity of the technology was associated with varying forms of teacher talk. For example, when the technology was unfamiliar, increased questions were devoted to clarification of operating tool. When the details for operation became more familiar, the content of the questions appeared to shift to more lesson-relevant topics.

Additionally, the teacher often used questions to scaffold student learning. Students were completing assignments, so teacher talk was often used to clarify their questions, often about the technology in the form of yes/no questions. When the teacher was the leader, the talk was focused on content, behavior, attention, clarification. When children were at the computers, the talk from teachers tended to focus on technology while questions that were more complex were asked about the content. A review of the interactions suggests that in terms of the technology-enriched classroom, the interaction appears to be a triad vs. dyad. In a traditional classroom, the children and

the teacher interact with materials providing content. In the technology enriched classroom, the teacher and student form a dyad, but with the computer, there appears to be a learning triad. Teachers present information content, give directions for assignment, then technology provides for the higher-order “interaction” with the information.

References

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