



**The TEACHER CENTER of Broome County**  
**Teacher Study Group Grant Award**  
**Winter/Spring 2006**  
**FINAL REPORT**  
**DOCUMENT PROCESSES AND OUTCOMES**

**STUDY GROUP TOPIC: The Use of Logo Programming Language to Support School Wide Enrichment**

**List of group members: Lissa Connelly, Laura Lamash, Susan Kitchen, Dawn Young**

**The final report must be word-processed and submitted both in print and on disk using this form. Include information under each of the following headings.**

**Describe the initial goal of the group noting any adjustments that had to be made as time passed.**

The initial goal of the study group was to refine the team's understanding of LOGO language, align LOGO with the K-8 MST Standards and district curricula, and develop pilot lessons accordingly. Through the course of the study group it was necessary to adjust our project to address the groups differing levels of LOGO understanding and unanticipated constraints on our teaching schedules. In this respect, each of us presented pilot lessons to the group on an ongoing basis according to our ability to work in classrooms and access schools' computer labs. Midway through the study group, our middle school member was unable to continue the sessions. Our focus became to define the K-5 strand and develop a 4<sup>th</sup> grade unit that we could pilot in the districts 4<sup>th</sup> grade small group enrichment for the spring term. This focused application will be an opportunity for the elementary Challenge teachers to fill in gaps in their understanding of LOGO.

**Describe the ACTION PLAN that the group followed.**

The study group set out to organize a K-8 Logo curriculum that could serve as a framework for lessons in the upcoming 2007-2008 school year. The study group sessions were aligned with group members designing and implementing lessons in their classrooms and then sharing the results of these pilot lessons. In this manner, we set out to learn Logo programming through our weekly sessions and then through working with our students.

**Describe how the action plan was implemented.**

Initially, each group member would be responsible for developing a lesson and presenting it to the group. We found, however, that a more informal structure suited us. Each week we would present the lessons we had been working on and explore particular areas Logo relevant to these lessons, or address areas we needed support in.

Our original plan was to develop an in depth K-8 curriculum. This too was modified. We have generated a general K-8 scope and sequence. We decided for our own professional

development to create and teach an in depth 4<sup>th</sup> grade and 6<sup>th</sup> grade unit — by teaching this ten week unit, we ourselves would have an opportunity to become proficient in Logo.

**Evaluation of the impact of the study group effort on teacher/student performance.**

- How has this study group changed you as a teacher? Do you anticipate that any of your teaching practices will have changed?

The study group has solidified for the Challenge team the necessity and importance of introducing and maintaining Logo in our elementary and middle schools. Classroom teachers who have observed our lesson concur that the concepts and skills taught with Logo have broad applications and importantly, appeal to students who do not succeed with traditional approaches to math instruction.

- What evidence do you **expect** to see of student achievement improving as a result of your participating in this study group?

Our pilot 4<sup>th</sup> grade unit is developed to have a pre and post assessments. What we have observed is that students have not internalized a conceptual understanding of basic geometrical concepts: line, polygon, area, perimeter, angle. After just one focused lesson using Logo or Roamer turtle, students demonstrate greater conceptual fluency of these concepts.

- What evidence is there that the goals of the study group has/has not been met?

Our initial goal was ambitious. While we have developed an adequate overview to guide us in 2007-2008, we realized that a K-8 curriculum will take many years to develop fully and integrate within the learning culture of the schools. SO we are looking forward to next year and the opportunity to build on what we have started.

**Comment on the value of the study group process? Did it work for you?**

The study group was a wonderful moment in the week when we could relax and talk about what we do and learn from each other. All participants agree that the study group provided a safe and comfortable context to learn and refine our instructional practices.

**How can we make this study group program better?**

It is a wonderful opportunity. Don't change it.

Included with final report:

1. Brochure: *What is Logo? An Overview of K-8 Logo Programming*
2. Curriculum: *An Overview of K-8 Logo Programming*

### 3. Study Group Logo