Title I Math First Grade Intervention Program
Based on the Math Recovery Model
Naperville District 203

Introduction

In 2001, the Federal Government re-authorized all the entitlement grants under the umbrella of "No Child Left Behind". The premise of the No Child Left Behind legislation is to provide dollars for Local Education Agencies to improve the basic programs they already operate in order to improve the academic achievement of the disadvantaged. In November 2001, Naperville District 203 was notified that we would receive an allocation of dollars for this purpose even though our poverty level census numbers were below 2%.

Title I legislation requires a comprehensive needs assessment to help ensure that all students meet standards. District 203 has engaged in a comprehensive needs assessment process for the past several years, the results of which can be found in the five-year Business Plan as Goal 3: Raise the performance of students not experiencing success. During the 2001-2002 school year, District 203 researched best practices for providing support in reading and mathematics. We worked with the Mathematics Recovery Program to develop the first grade mathematics support model, ***Title I Math Club***.

In developing the Title I plan and budgeting funds, districts must rank order all schools by percentage of low income students and may provide programs and services in only those schools that exceed the district average. Title I programs are required to be an additional layer of service not provided to district students with other funds. Schools eligible for ***Title I Math Club*** through Title I funds during the 2010-2011 school year are Beebe, Ellsworth, Mill Street, Kingsley, Naper, and Scott.

Title I First Grade Math Club is a federally funded (Title I) Math program, based on the Math Recovery Model, designed to help ensure that all students be successful in mathematics. It is part of the "No Child Left Behind" initiative.

Research confirms what we have known for a long time about children and math:

- Some children begin school without the informal knowledge needed in order to be successful in school mathematics.
- When children enter with gaps in their mathematics knowledge, the gap widens, and experiencing success in mathematics becomes increasingly difficult.
- If children are not successful in mathematics early in the school experience, they will likely develop negative feelings about mathematics and about themselves as learners of mathematics.

The goals of Title I Math Club are to:

- Help students who have gaps in their concept/skill development that cannot be addressed through classroom interventions.

- Advance children's strategies and knowledge in early number.

- Deliver this intervention to first grade students in daily, individualized 1:1 instructional settings of 30 minutes, by educational support personnel under the direction of the primary math intervention specialist, a Math Recovery trained teacher.

First Grade Title I Math Club is based on the extensive research of Dr. Les Steffe, Dr. Paul Cobb, Dr. Robert Wright and the Math Recovery model of one-on-one intervention. The program is research-based and assessment driven, and has an impressive success record worldwide. Students who participated in this intervention exhibited improvement in their self-esteem, classroom behavior, and attitudes toward learning as well as their increased understanding of early mathematics.

Students are selected for this service based on screening assessments administered by Title I Math staff as well as recommendations from classroom teachers. Teacher observations provide additional information for assisting in this referral and selection process.

Title I Math Club Components

The goals of Title I Math Club include the development of the conceptual understanding necessary to be successful in learning objectives being introduced and worked on in the classroom. The areas of instructional concentration in Title I Math Club, which are foundational for all future learning in mathematics, include:

1. **Forward and Backward Number Word Sequences**
   Title I Math Club students will develop verbal ability with number words in the range 1- 100. This includes:
   - Counting forward from 1 and from numbers other than 1.
   - Counting backward from any given number.
   - Telling what number comes before and after a given number in the range 1-100.
   - Ordering and sequencing numbers in the range 1-100.

2. **Numeral Identification – Reading Numerals**
   Title I Math Club students will work on distinguishing one number from another, identifying and naming all numbers in the range 1-100 and beyond. Concentration will be on numbers which tend to be confusing, such as numbers having a zero or one in the tens place. (12, 20, 103, 213, etc.) Teen numbers can very difficult for young children because of the similarity in sound to other numbers (13\30, 16\60). Reversals such as 12/21 and 14/41 are also common.

3. **Patterning and Sequencing**
   Title I Math Club students will recognize and use spatial patterns such as dice, dominos, and finger patterns in order to support the learning of addition, subtraction and grouping strategies, and the development of number sense.

4. **Addition and Subtraction**
   Title I Math Club students will focus on the conceptual development of addition and subtraction strategies rather than rote memorization of number facts (counting on, counting up to, counting back from, counting back to, privileging 5 and 10, using doubles, etc.).

5. **Number Relationships**
   Title I Math Club students have many opportunities to discover the relationship of numbers. Five can be thought of as two and three, four and one, three and two or one and four. Children begin to see five as the whole- and if two are missing, the 'part' left is three. They then learn five plus facts. By using five as an anchor number they are able to use it as a base to add off of, such as: 5+ 1, 5+2, etc. They are then able to think of seven as two more than five or three less than ten. By internalizing the part/part/whole relationship of numbers to ten, they are learning ALL of the FACTS to ten in a meaningful way.

Students are released when they have achieved grade level fluency and conceptual understanding in these five areas.