

Communicator

MATHEMATICS®

by Paul Lawrence

A complete math program for grades 3-6 that focuses on:

Hands-on, discovery based learning

Active student participation

Dynamic support for parents

Unparalleled computational fluency



L Teach Inc.

Math Educators supporting **Math Educators**

What Is Communicator Mathematics®?

A Constructivist Program that Traditionalists Will Love!

Communicator Mathematics® is a comprehensive research and standards based constructivist mathematics program for Grades 3 through 6 developed by Paul Lawrence and published by LLTeach Inc.

It is currently being used in a number of school districts throughout the country.

Our Philosophy

Communicator Mathematics® is based on the principle that all children can learn standards-based mathematics and demonstrate strong computational and mental mathematics skills.

- The material is presented in a way that keeps children interested and actively involved.
- The program builds a foundation of conceptual understanding before algorithms are introduced.
- The design and implementation of the program are sufficiently comprehensive to make traditional “drill and kill” test preparation irrelevant.



Communicator® clearboards and their use in Communicator Mathematics®

The Communicator® clearboard is a full-page sleeve made of sturdy, transparent plastic, into which lesson templates can be inserted. Students then use dry-erase markers to record their responses. The use of this device promotes active participation, allows for on-going monitoring and adjustment of instruction, and allows for timely differentiation in each lesson.

It is well known that active participation is one of the key elements of effective teaching. The Communicator® clearboard is a tool that helps the teacher keep all students actively involved throughout the lesson:

every child has a Communicator® clearboard and EZ Erasable marker in their hands and is instructed to actively participate!

The Communicator® clearboard also helps to monitor student learning: once students have recorded their work, the teacher instantly knows who needs re-teaching, who is ready to move ahead, and what misconceptions need to be corrected.



Finally, Communicator® clearboards are an excellent way to show representations in math concepts. By using the hundreds of available templates with Communicator® clearboards, materials are presented in an iconic fashion. In this way, Communicator® clearboards and *Communicator Mathematics®* bridge the gap between the concrete and the symbolic stages of learning. Most programs gloss over this iconic stage, depriving students the opportunity to solidify their learning in a way that makes recall and application easier at a later time.

Program Features

There are a number of elements that distinguish the *Communicator Mathematics*® program. These include:

The Concrete, Iconic, and Symbolic Method

Since math is very symbolic, students must build a strong foundation of understanding which helps them internalize the key mathematical concepts at hand. The learner first uses manipulatives to model a new concept. Next, they continue to model the concept, but use pictures to represent the objects. Finally, when enough foundation is in place, the student graduates from using manipulatives and icons and begins to associate symbols and numbers to the processes being modeled. These steps describe how *Communicator Mathematics*® leads the student from the concrete stage of understanding to the iconic stage (representations of the objects) and finally the abstract, symbolic stage of learning.

Comprehensive support for the teacher

For teachers who are unfamiliar with standards-based math and pedagogy, *Communicator Mathematics*® provides an easy transition with strategies and materials that make for interesting and intellectually challenging lessons.

Comprehensive support for the parent

Communicator Mathematics® offers exceptional, unparalleled support to parents including a homework handbook which explains why the teacher is using unfamiliar methodology. It also includes suggestions for how to help children learn math concepts at home as well as interesting games and activities through which they practice the concepts they have been taught. In addition, parents have online access to all *Communicator Mathematics*® material via our website including lesson plans and video vignettes that model key concepts.

Hands-on discovery-based lessons

All concepts taught in *Communicator Mathematics*® begin with hands-on, discovery-based lessons. Students create sets of “data” through investigations. Then, through developing conjectures and questioning them, they discover for themselves the related algorithm. Procedures and algorithms are not stressed, applied or practiced until conceptual understanding is established.

Active participation built into every lesson

Through the use of the Communicator® clearboard, each student is involved with every question and idea under consideration. Not only is the teacher consistently informed about how well focused every student is on every topic, he or she also knows how well the student is processing and understanding the material.



A focus on computational fluency

Students start with a basic concept that is part of a big idea in mathematics. It is introduced at the basic level, yet related to the big idea. The student then progresses incrementally towards a mastery of concepts and deep understanding. Incremental repetition distributed over a period of time is a key element to building a long-term retention of learning. This structure is paramount to the underlying approach used in building computational fluency.



Mental Math Activities

Communicator Mathematics® helps all students develop powerful mental math skills. They learn the “facts” involved with math, but in a non-traditional way that helps them to be strategic about solving math problems and to

apply math concepts in new and different situations. This skill is known as fluency in math.

Professional development support for *Communicator Mathematics*®

Coaching is an important element of a comprehensive implementation of the *Communicator Mathematics*® program. Using a combination of workshops and job-embedded coaching, *Communicator Mathematics*® teachers will become familiar with powerful teaching techniques, content, organization and classroom management. One-on-one coaching helps to build greater capacity to help all children succeed with challenging mathematics.

Instructional support through video vignettes and online resources

Communicator Mathematics® provides support for teachers through detailed lesson plans and video vignettes as well as providing all the materials for class work, homework and assessments, leaving the teacher free to prepare for teaching. This vehicle reflects the same techniques covered in the workshops, but extends the instruction as a refresher for the teacher. Teachers are thus able to again see the techniques applied in good practice.

Communicator Mathematics® in Jersey City, New Jersey

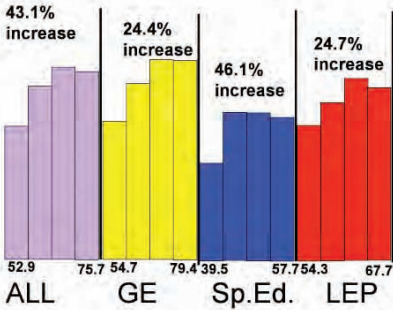
LLTeach Inc. has been privileged to be directly involved with mathematics instruction in the Jersey City schools since 2001 when the principal of PS#17, one of the lowest performing schools in the district, invited LLTeach to help improve student achievement in mathematics. During this initial year, significant change and progress was made. In part because of the success of that program, LLTeach was awarded a contract to provide a program designed to “change the culture of teaching mathematics” within the school district of Jersey City.



Over the past decade, the Jersey City results on the NJ statewide tests have shown dramatic improvement in students' mathematics skills and knowledge. Of particular interest is that African American, Hispanic, and special education students have all shown extensive advancement in mathematics per-

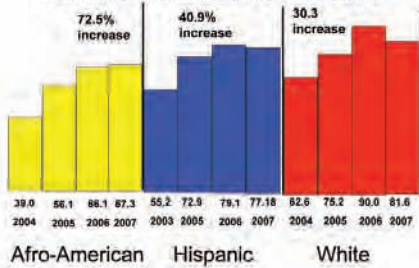
formance showing that hands-on, discovery based mathematics can transcend language and cultural barriers. As a result of this progress, the Jersey City Public School District was named as a finalist for the 2006 Broad Prize, the largest education award in the country given to a school district for improving student achievement while reducing achievement gaps among ethnic groups.

NJ ASK Grade 3 Scores 2004 – 2007**

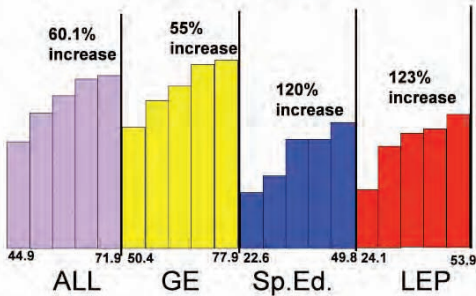


Jersey City Test Scores*

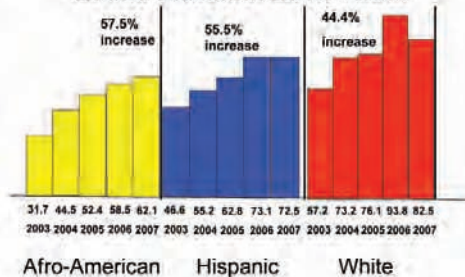
NJ ASK Grade 3 Scores Ethnic Breakout 2004 - 2007**



NJ ASK Grade 4 Scores 2003 – 2007

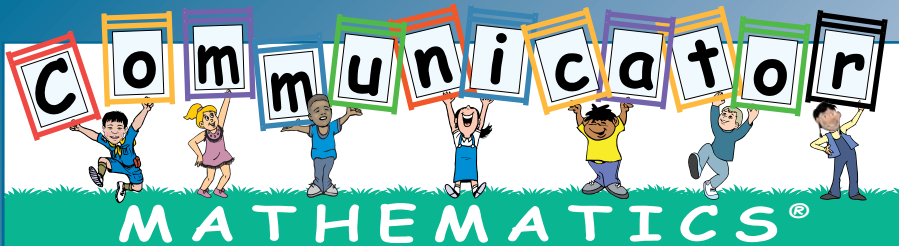


NJ ASK Grade 4 Scores Ethnic Breakout 2003 - 2007

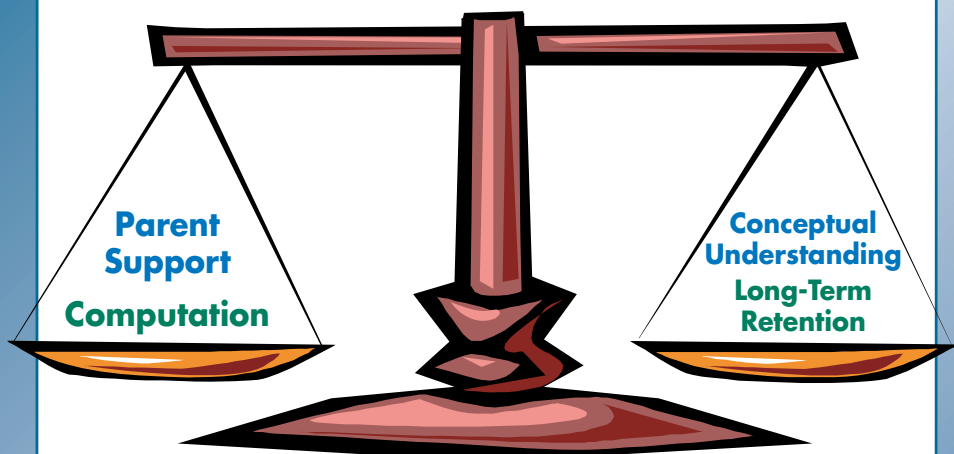


*The most recently available test scores

**In 2003, there was no NJ ASK test for grade 3



A COMPLETE AND BALANCED MATH PROGRAM



Communicator Mathematics® is a constructivist 3-6 math program that traditionalists will love!

- Are ALL your students involved in learning exciting, hands-on math? *Active participation is built into Communicator Mathematics®!*
- Are you satisfied with your math program's parent component? *Communicator Mathematics® offers unparalleled parental support.*
- Are you interested in raising the scores of your low achieving students? *Read inside about how we can raise your test scores.*

LL Teach Inc.

800-575-7670 or visit www.LLTeach.com